

NATIONAL FISHERMAN

JANUARY
1958



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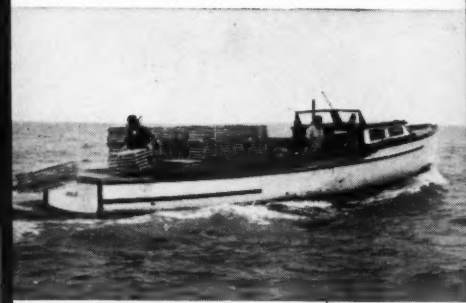
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VANCOUVER, B.C. fisheries report more Chrysler Marine Engines in use than all other makes combined. Some have been working for as long as a dozen years without a major maintenance problem.



MAINE lobstermen put in long hours on a tight schedule—4:30 A.M. to 4:00 P.M. during the season. Dependable marine power, therefore, is a must. Chrysler is first choice.



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MARINE ENGINE DIVISION • CHRYSLER CORPORATION

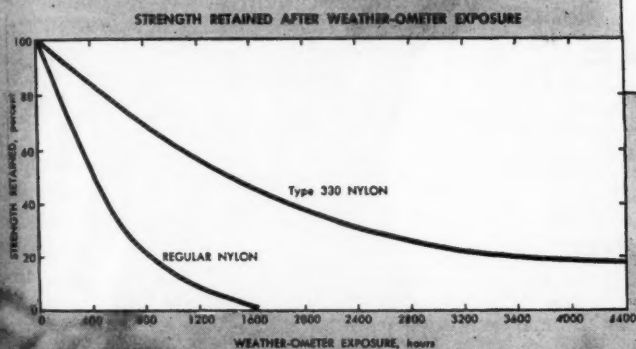
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are made from Du Pont's new

TYPE 330 NYLON YARN

for greater sunlight durability

Chart below shows results of a Du Pont laboratory exposure test of Type 330 vs. Regular Nylon.



Make sure your netting manufacturer is using BROWNELL PRODUCTS. You'll find the "BROWNIE" trademark on the largest selection of Nylons for the fishing industry. Here are just a few: Regular Nylon Seine Twine . . . Stretched and Bonded Nylon Maitre Cord . . . Lobster Pot Nylon Heading Twine (regular and bonded) . . . Combination Nylon Seine Twine (Spun and Filament) . . . Brownie Type "E" Nylon — the only successful trawl or long line available today . . . Spun Nylon Seine Twine. PLUS a complete selection of Nylon Heading or Seaming Twines.

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NEW 4-CYLINDER SEA-HORSE V-50 — \$740

- Whopping 70.7 cubic inch displacement—largest among popular outboards.
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*First in dependability...
pioneers of the "V" age engine*

Johnson

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NATIONAL FISHERMAN

The Fishing Industry Magazine

Licenses for Salt Water Anglers Desirable

At a largely-attended public meeting in Boston last month, Massachusetts Commissioner of Natural Resources Francis W. Sargent said that licensing of all salt water fishermen is inevitable, and urged commercial and sport salt water anglers to determine how this might best be accomplished for their own direct benefit.

In discussing the controversial question of licenses for those who fish the sea, whether for profit or pleasure, Sargent stated:

"It seems obvious that eventually all salt water fishermen will be licensed—within the territorial waters—as are all fishermen who fish in fresh water. Therefore, no longer should we 'stick our heads in the sand' and blindly oppose the inevitable.

"No state should go it alone. For this reason, the Atlantic States Marine Fisheries Commission, of which I am chairman, is now studying the licensing question from Maine to Florida. In its enabling legislation, each state should agree to honor the license of any other Atlantic Coast state. Thus, the angler would need only one license for the whole coast. Fish do not recognize state boundaries and management by one state inevitably affects the fishery of sister states."

Commenting on the tangible benefits that should accrue if more funds were available through revenue derived from the sale of salt water licenses, Sargent said:

"First and foremost, research could be increased far above its present pitiful level. Research can lead to management which will increase both sport and commercial fishing opportunity and yield. Our marine

fishery resources are too valuable, the pressures on them too great, and increasing too rapidly to delay a coordinated program. No longer can we afford to use 'seat of the pants' guesswork when regulating the fishery—management based upon sound scientific information must be our guide."

At the annual meeting of the Atlantic States Marine Fisheries Commission last September, A. Heaton Underhill of the New Jersey Fish and Game Council, predicted that the tremendous growth of ocean sport fishing would lead to increased friction between sport and commercial groups seeking the same species.

"Such friction can only lead to the restriction of commercial fishing unless research and management can demonstrate the feasibility or desirability of joint harvest. For this reason, commercial fishing interests should support greater financial participation by sport fishermen in marine research and management.

"There appears to be increasing sentiment among fisheries biologists, fisheries administrators, and many sportsmen that a salt-water angling license is the fairest and most effective way to raise the funds which most informed people feel are needed for adequate marine fisheries program."

The interests of both commercial and sport fishermen should be recognized. However, the frequently unfounded accusations against commercial operators put forth by sportsmen do not promote harmony. There should be a scientific approach in resolving differences, and a licensing program would help to provide funds for the expanded research needed to arrive at practical regulatory decisions.

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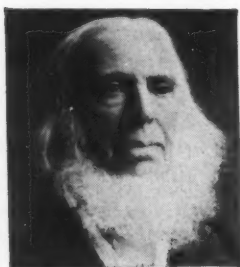


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The funny hole in Mr. Cooper's building



MANY a New Yorker shook his head, and not a few snickered, when they saw the "hole" in Peter Cooper's new building.

But to the benign gentleman with the ruff of graying whiskers it was all so simple: Some day someone would perfect the passenger elevator.

The mere fact that there wasn't one in 1853 would mean little to a man who, with his own hands, had built and driven the first American locomotive. Whose money, and faith, were to help see the Atlantic Cable through all its disasters to final success. And who would "scheme out" a Panama Canal plan fourteen years before DeLesseps.

But Peter Cooper's belief in the future ran in a vein far deeper than simply the material. For his "building with a hole" was Cooper Union, the first privately-endowed tuition-free college in America. A place where young men and women of any race, faith, or political opinion could enjoy the education which he, himself, had been denied. Peter Cooper's

dearest dream—which has continued to grow dynamically for nearly a century and today enriches America with thousands of creative thinkers, artists, and engineers.

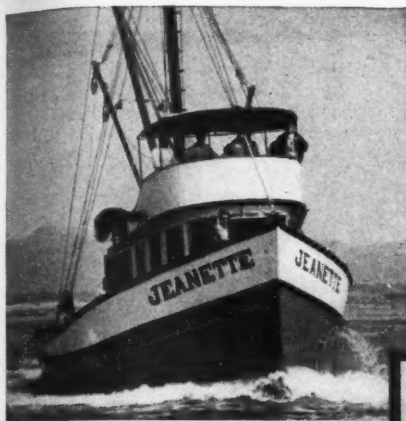
There is plenty of Peter Cooper's confidence and foresight alive among Americans today. It is behind the wisdom with which more than 40,000,000 of us are making one of the soundest investments of our lives—in United States Savings Bonds. Through our banks and the Payroll Savings Plan where we work, we own and hold more than \$41,000,000,000 worth of Series E and H Bonds. With our rate of interest—and the safety of our principal—guaranteed by the greatest nation on earth. You're welcome to share in this security. Why not begin today?

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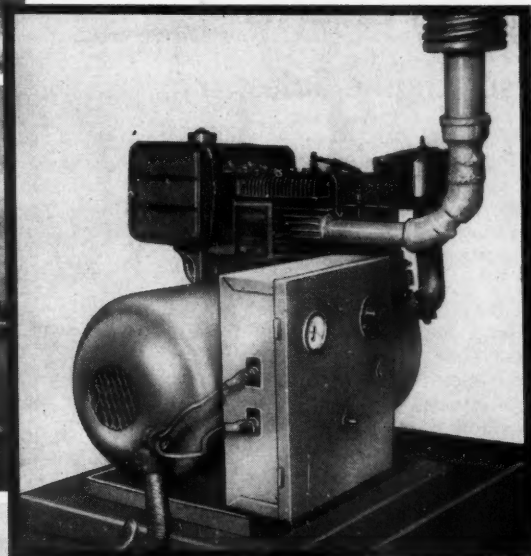
PART OF EVERY AMERICAN'S SAVINGS BELONGS IN U. S. SAVINGS BONDS



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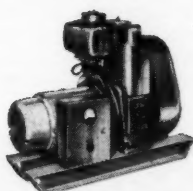


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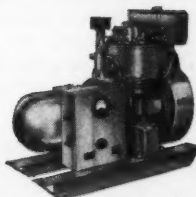


ACTUAL WINPOWER INSTALLATION

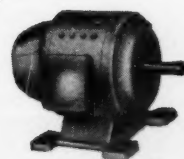
The photograph to the left shows an actual WINPOWER installation on the Jeanette, one of the latest shrimp trawlers built by Congeladora del Pacifico, Mazatlan, Mexico. Like hundreds of other commercial craft, the Jeanette depends on a WINPOWER Electric Plant for dependable, low-cost power and light afloat.



DIESEL ELECTRIC PLANTS
3 KW to 100 KW
Water-Cooled



GASOLINE ELECTRIC PLANTS
1000 Watt to 100 KW
Air or Water Cooled



GENERATORS
1000 Watt to 100 KW
All Voltages and Cycles.

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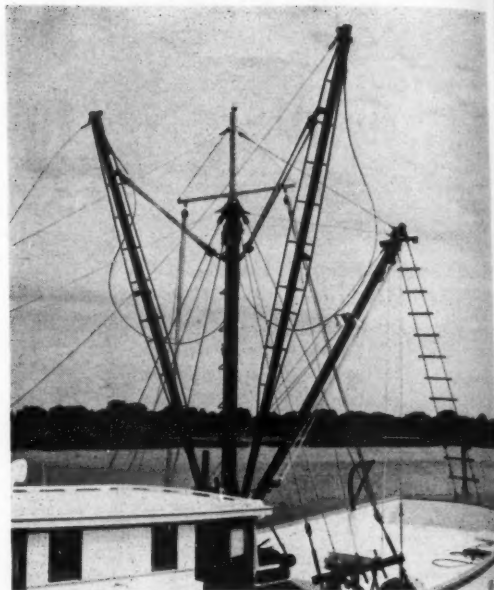
Are Aboard the **DOUBLE RIG SHRIMP TRAWLERS**

Built by Diesel Engine Sales, Inc.

Stroudsburg Hoists with two winch heads have been installed on several new "double rig" 67-foot shrimp trawlers of the Florida and Texas fleets, built recently by Diesel Engine Sales, Inc., of St. Augustine, Fla.

Among the boats with the new model 515½T Stroudsburg Hoist, designed especially for use with the twin-boom "Texas" shrimp rig, are the following: "Southern Crest", "Southern Breeze" and "Southern Wave", all owned by Sidney E. Herndon of Corpus Christi; E. L. Peterson's "Sunshine" of St. Augustine; L. E. Thompson's "Alona Girl" of Fort Myers; and D. S. Peterson's "Frolic" of Fernandina.

The new model Stroudsburg Hoists are providing dependable and efficient performance on double rig trawlers throughout the shrimp industry. The winch heads are assembled on the middle and upper drums, and are engineered to give maximum convenience.



**Your Present Hoist Can Be Adapted
for Twin Rig Operation**

Stroudsburg special drum shafts and extra winch heads are available for installation on conventional type hoists now in service. This equipment can be readily assembled to adapt any Stroudsburg hoist for double rig operation. Write for complete information.



"Sunshine" of St. Augustine



"Alona Girl" of Fort Myers



"Southern Wave" of Corpus Christi

STROUDSBURG ENGINE WORKS, INC.

Box 350, Stroudsburg, Pennsylvania

"The Fishermen's Choice is a Stroudsburg Hoist"

► Tuna Import Hearings Held

The U. S. Tariff Commission has concluded its three days of public hearings in connection with its general investigation of tuna imports and their effects on the American tuna industry. The investigation is being made at the request of the Senate Finance Committee, which has pending before it legislation providing for a tariff and quota program on all tuna imports.

Representatives of the fishermen and the vessel owners are opposed to imports in all forms, with an accent on frozen imports. The small and independent canners say they must import frozen supplies but are opposed to imports of canned tuna and frozen loins and discs. The Starkist, Van Camp, and Westgate, California canners which use domestic and imported supplies are strongly opposed to canned imports and they also want restrictions on frozen imports.

Frozen tuna in whole fish form enters the United States free of duty. Frozen loins and discs are dutiable at one cent a pound. Tuna which is canned in brine has a 12½ percent duty while tuna canned in oil is subject to a 35 percent duty. The pending legislation is designed to equalize tariff treatment of the different forms of tuna imports.

It was also said that the Japanese tuna interests are able to undersell canneries in the United States because of extremely low wage rates.

The Tariff Commission will submit its report to the Senate Finance Committee by February 1, 1958.

► F&WS Division Chiefs Named

Arnie J. Suomela, Commissioner of Fish and Wildlife has announced the filling of the top five posts in the newly reorganized United States Fish and Wildlife Service in the Department of the Interior. Suomela said that the appointment of division chiefs in the Service's Bureau of Commercial Fisheries, and Bureau of Sport Fisheries & Wildlife carries out the changes in functions and organization of the Service as authorized by the Fish and Wildlife Act of 1956.

Dr. Albert L. Tester, formerly director of the Service's Pacific Oceanic Fisheries Investigations at Honolulu, was selected as chief of the new Division of Biological Research which will handle investigations pertaining to the anadromous fisheries, marine and inland fisheries and the shellfish fisheries. These activities were previously carried out by the Branch of Fishery Biology.

Former Coordinator of the Salton-Kennedy Program, Harold E. Crowther becomes chief of the Division of Industrial Research and Services. This division takes over the functions of the former Branch of Commercial Fisheries in the field of economics, exploratory fishing and gear research, dissemination of daily

FISHERY PROGRESS

fishery market news, statistical canvasses and studies, market development activities, and technological research.

The former assistant chief of the Branch of Alaska Fisheries, Ralph C. Baker, is now head of the Division of Resource Management. This unit is responsible for the Alaska fishery and fur-seal programs, the Columbia River fishery development program, and the enforcement of laws and regulations relating to the management of commercial fisheries and marine mammals under international fishery conventions.

In the Bureau of Sport Fisheries and Wildlife, Robert M. Rutherford is the new chief of the Division of Technical Services. The Division of Sport Fisheries is headed by John S. Gottschalk.

► Price Index Rises

The edible fish and shellfish wholesale price index rose 1.6 percent compared with October and rose 2.4 percent compared with November 1956.

From October to November 1957 prices dropped slightly in drawn, dressed, and whole finfish. But there were sharp increases in fresh drawn haddock at Boston (up to 20.7%) and in lake trout prices in Chicago (15.6%).

Fresh processed fish and shellfish prices in November were up 6.3 percent over the preceding month due to high fresh haddock fillet prices. Compared with November 1956 the index for the group increase 4.9 percent.

Frozen processed fish and shellfish prices increase 4.9 percent from October to November due to a strong market in haddock. There was an increase of 5.5 percent from November 1956 to November 1957.

► New Electrical Gear Tried

In an effort to speed up New England's swordfish and tuna catching, the U. S. Fish and Wildlife Service has put into operation a new electrical gear that stuns the fish before it can make its run.

It consists of a 24-volt transformer, a push button control box, and 100 feet of hemp line with a wire core to carry the charge. The gear is attached to a hook for tuna and a conventional dart, or iron, for swordfish.

► U. S. Second In Fish Production

The newest edition of the Food and Agriculture Organization of the United Nations "Yearbook of Fishery Statistics 1955-56" has been recently released. The yearbook contains statistics on catches, production of preserved and processed commodi-

ties, fishing craft, and whaling from all countries.

According to the report, the United States is the second largest producer of fishery products in the world, with a catch of 2,936,000 metric tons in 1956. This was an increase of approximately 200,000 metric tons over 1955. Japan leads the world fishery production with a 1956 catch of 4,763,000 tons.

Another report by the organization shows that nearly 1½ times as many fish are being caught in the world's rivers, lakes and oceans as were caught before World War II.

► Fleet Additions Increase

During the first nine months of the year, 496 vessels obtained first documents as fishing craft, an increase of 63 over the first nine months of 1956. The Gulf of Mexico led with 117, 34 more than the previous year. Next was the South Atlantic with 91. Second in increase was the Pacific Coast with a gain of 21.

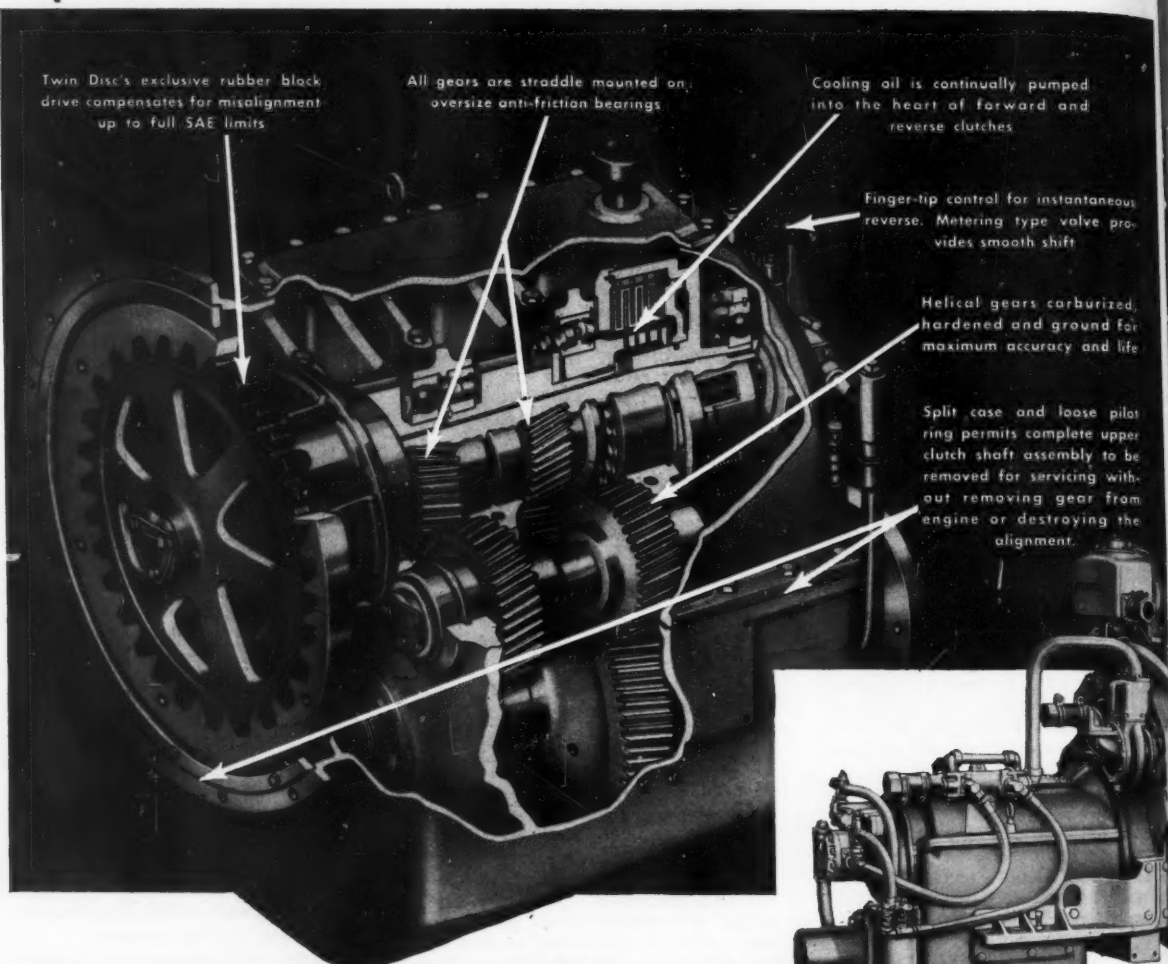
During September 1957, 48 vessels of 5 net tons and over received first documents as fishing craft. This was an increase of 14 over the same month of 1956. The Chesapeake area led with 15 vessels. The Gulf was in second place with 14 followed by the South Atlantic with 7.

► Conduct Freeze-Dry Experiments

A freeze drying process in food handling has been showing promise lately. Foods handled by the new technique seem to taste fresher than many fresh ones, when rehydrated and cooked. While they are frozen they are very light weight and can be shipped and stored in air tight plastic envelopes, without refrigeration.

Dr. A. Copson of Raytheon Manufacturing Company has done a considerable amount of experimenting with the process. It is based on the principle that a frozen material containing water, when placed in a vacuum chamber, loses the ice crystals in it directly as water vapor without melting into water. Raytheon shoots high frequency radio waves through the frozen food to produce evaporation of ice crystals through the center of the food.

Fresh shrimp which are freeze-dried are a little smaller than before processing but they still smell like shrimp. The consistency is like that of popcorn or puffed rice. When soaked in water for thirty minutes and then cooked they look and taste like a cooked fresh shrimp. Chicken and some vegetables have been prepared successfully. At least one company is working on oysters as a possible future product to handle in this manner.



Twin Disc's exclusive rubber block drive compensates for misalignment up to full SAE limits

All gears are straddle mounted on oversized anti-friction bearings

Cooling oil is continually pumped into the heart of forward and reverse clutches

Finger-tip control for instantaneous reverse. Metering type valve provides smooth shift

Helical gears carburized, hardened and ground for maximum accuracy and life

Split case and loose piloting permits complete upper clutch shaft assembly to be removed for servicing without removing gear from engine or destroying the alignment.

New Twin Disc MG-521 **... for high output marine** **engines up to 450 hp**

More hours under continuous load ... more rugged day-in and day-out operation ... longer periods between overhauls ... these are the requirements for today's higher speed, higher horsepower marine engines. And here's the new Twin Disc MG-521 Marine Gear to match these requirements in every respect ... to give boat owners more hours of trouble-free operation ... and greater-than-ever dollar value on their marine gear investment!

The new MG-521 is rated for 450 continuous hp operation at governed speeds ranging from 1625 to 1850 rpm and is available with 2:1, 3:1, and 4:1 reduction ratios ... to meet an extremely wide range of engine makes and models.

Forward, neutral and reverse are "finger-tip" controlled by a selector valve, which hydraulically actuates the oil-cooled, multiple-plate forward and reverse clutches. Instantaneous clutch release assures faster, smoother response when shifting from forward to reverse.

A flood of oil is continuously pumped through the clutches, carrying away heat, assuring smooth clutch engagement and substantially reducing clutch plate wear.

Five hardened and ground helical gears, straddle mounted on anti-friction bearings on short rigid shafts—plus unusually heavy-duty construction throughout—assure extremely long life. Full horsepower may be transmitted continuously in either

forward or reverse without reducing service life.

Other MG-521 features include:

- Twin Disc's rubber block drive
- Emergency "come home" feature
- Upper gear housing may be removed for clutch and gear train servicing without destroying engine-gear alignment.

Write today to Twin Disc Clutch Company, Racine, Wisconsin, for complete details on the new heavy-duty MG-521 Marine Gear.



NATIONAL FISHERMAN - JANUARY, 1958

Large Power Dams Hinder Salmon Migration

Fish ladders and trapping methods which are successful on small rivers with low-level dams are not very effective on larger streams. Canadian Fisheries Minister Sinclair* strongly urges damming non-salmon rivers first.

THE scientists of Canada, as well as those of other countries which have salmon fisheries, such as Scotland, Norway, Sweden, Russia, Japan and the United States, have all been working on the problem of moving migrating salmon over dams. The adult fish can be moved over low dams by means of fish ladders, if there is sufficient room to build them around the dam. With a fish ladder the salmon can jump from pool to pool, but there is a limit to that, because of the exhaustion factor.

Escalators also can be constructed to move salmon. There is one on the Columbia that looks fine and certainly is mechanically perfect, but it does not move the fish very well. Tank cars are even used to carry fish around the Capilano Dam, which is 350 feet high. There is an iron grill across the river which diverts the salmon into a pool where they are skillfully trapped and put into a tank car which is aerated. They are then taken to a spot seven miles above the dam and turned loose.

These things can be done fairly well on small rivers with low-level dams, but no one has yet devised a way of doing it with high-level dams or with run of the magnitude of the Fraser run. At the peak of the Fraser run 750,000 salmon a day pass through the River at Hell's Gate. These are not inanimate pieces of material like iron ore which can be handled at will; they are very active animals with an over-whelming urge to fight the current to get to the stream where they were born in order to reproduce their species. The problem of trapping them and moving them over a dam such as the proposed Moran Dam, which would be 750 feet high, seems to be a problem presently beyond solution by the best biologists, scientists and engineers in the world.

Salmon Stop Feeding on Entering Fresh Water

Let us consider the effect on sockeye salmon migration of a power dam on the Fraser River. Suppose a dam has been constructed at Yale, where it is proposed to build the lowest of these dams. The salmon ascending has over millions of years of evolution built into its body just the correct amount of fat and flesh to provide sufficient energy to get it to its home stream after it has stopped feeding on entering fresh water.

The salmon which go to the Stuart and Bowron Lakes travel the farthest distance because they have almost an 800-mile journey against strong currents, and have to lift themselves 2,000 feet as well. When they encounter a dam they experience a delay in arriving at their destination. No matter how effective may be the fishway that is constructed at the dam, it requires time for them to find that fishway because it presents a new problem to them and a new approach. Every delay they encounter means that they burn up the essential energy which nature has found necessary during the course of millions of years to get them to the spawning ground. It has been discovered that 95 per cent of the sockeye salmon will not spawn unless they reach their home creek, and if they burn up energy in delays at dams, they will not reach their spawning grounds.

In the event that a salmon manages to fight its way up the river and has not encountered too much delay at the dam and finds its way through the lake it still has to find the spawning bed in which it was born. The Moran Dam

will lift the level 750 feet for hundreds of miles which will drown out all the known spawning beds.

Ideal spawning beds for salmon are between two and three feet down, on clear gravel free from silt. When a dam is built and a new water level created there are no gravel banks around the edge of the new lake. The lake is up in the earth of the mountain side and the banks are muddy. Then with the rise and fall of the water level in the dam when water is drawn off in the dry season, the whole shore around the reservoir becomes just a muddy morass in which no salmon can spawn.

Fingerlings Must Go Through Spillways or Turbines

Suppose some salmon did get through and did spawn successfully. Then the fingerlings have to come down to the sea and get around the obstacle created by a dam. When they come to the dam a most difficult choice must be made by the fingerlings—either to go over the top of the dam and down the spillway or to go through the turbines. If the fingerling goes over the top of an average size dam of 100 feet, great losses occur because of the abrasive effect as it shoots down with the stream of water over the concrete face of the dam. The skin of the fingerlings is rubbed off as it would be with sandpaper, and the fish die. Those fish which get down without the abrasive effect smash into the pool at the bottom of the dam and are either killed by the concussion or stunned so that they are able to be snapped up by predatory fish.

It has been found from experiments on dams on the Canadian side and on the dam on the Baker River in the State of Washington that the losses are about 60 per cent in the case of fingerlings that go over such a spillway. Of course, they have another choice; they could go through the turbines. When that is done there are two ways in which damage can be caused. There is the usual damage from the high-speed blades revolving within the turbines which mince up the salmon. However, that is not total damage, because the water moves between the blades of the turbines in blocks, and it is only the salmon at the edge of the blocks that are minced.

The greater cause of death results from the change in pressure. In the case of a 100-foot dam, the pressure is about 60 pounds per square inch at the base, whereas the atmospheric pressure is about 15 pounds per square inch. When the salmon fingerling is suddenly popped into the turbine from a very high pressure side to the low pressure side that exists it simply expands, bursts like a grain of puffed wheat and dies. Even in the case of turbines on low-level dams the loss is about 30 percent of fingerlings going through the turbines.

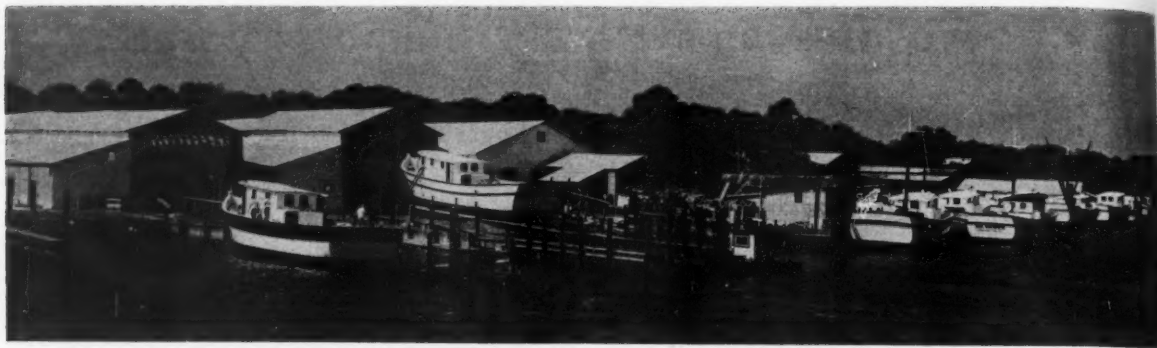
Fingerling Diversion Being Studied

The real answer to the fingerling problem is, somehow or other, to divert them before they reach the dam, because the dam is where the heavy mortality occurs. The most obvious way would be to have a fine screen across the river, anchored to the side, so that all the fingerlings would be turned to the side, trapped and moved down below the dam. Such a screen clogs up quickly with slime and natural growths. In addition, a screen across a great and fast flowing river such as the Fraser is impossible to construct and maintain in position; great logs and roots rushing down the river would carry out any fixed installation.

Other kinds of diversions of almost every description have been tried—a curtain of bubbles, for instance. Scientists have led a perforated pipe across the bottom of the river and used compressed air to make a constant curtain of bubbles to divert the fish. Dyes have been put up in the same way. Sound, of both high and low frequency, has been used to make a wall to divert the fish. Light is quite effective, and flexible barriers also have

(Continued on page 37)

* Based on a speech given recently in the Canadian House of Commons by Hon. James Sinclair.



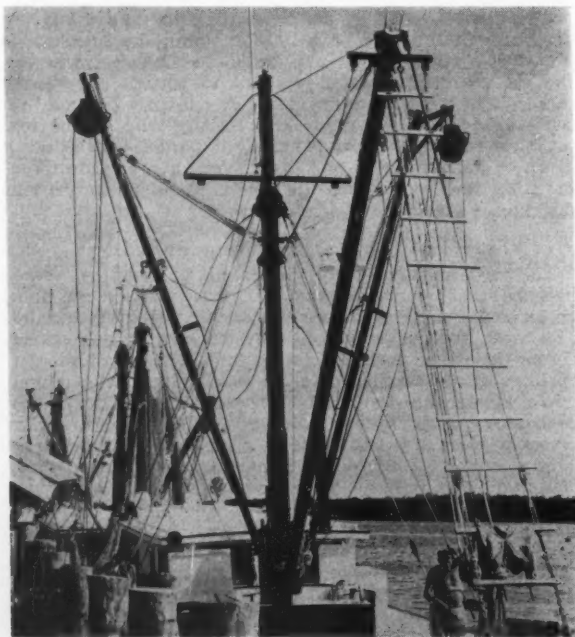
Yard of Diesel Engine Sales, Inc. at St. Augustine, Fla. showing boat building sheds and outfitting docks.

Florida-Built Shrimpers Using Double Rig

Diesel Engine Sales, Inc. building trawlers at record pace

THE trend toward the use of the double rig for shrimpers is evidenced by the latest trawlers being built by Diesel Engine Sales, Inc. of St. Augustine, Fla. Some of the 67-foot vessels with double rigs recently delivered by the yard are the *Southern Breeze*, *Southern Crest* and *Southern Wave*, all owned by Sidney E. Herndon of Corpus Christi, Tex.; the *Alona Girl*, owned by L. E. Thompson of Fort Myers, Fla.; *Sunshine* of the E. L. Peterson fleet of St. Augustine; and D. S. Peterson's *Frolic* of Fernandina, Fla. The *Southern Wave*, 15th boat in the Herndon fleet, sailed on her maiden trip early this month.

Good fishing results are reported with the double rig, also known as the "Texas" rig. With this type of gear, two trawls are fished at the same time. The distinguishing feature in appearance of a double rig boat is the added height of the outriggers, which extend above the mast.



Mast and boom arrangement on a typical double rig shrimp trawler built by Diesel Engine Sales, Inc., St. Augustine, Fla., showing 10" towing blocks on the outriggers.

Shrimp trawler building has been going ahead at a fast pace in the Diesel Engine Sales yard, which has turned out 100 new vessels in the past 12 months. At the present time, there are 20 trawlers in various stages of completion, and the firm has nearly reached the 700 mark in the number of fishing craft built since its founding in 1943. The 600th trawler built by Diesel Engine Sales, *Mary Call Collins*, was launched for Versaggi Shrimp Co. of Brownsville, Tex. on February 9, 1957.

In addition to having every facility for "production-line" construction of standardized hulls, Diesel Engine Sales has complete outfitting services. A large stock of boat equipment is maintained so that new boats can be readied for sea without delay. L. C. Ringhaver is president and general manager of the concern.

Another milestone in the history of Diesel Engine Sales was reached last month when the first trawler to be built at its Fort Myers yard was launched. Operated as Diesel Engine Sales of Ft. Myers, Fla., Inc., this yard previously was confined to marine repairs and supplies, but now has full facilities for fishing boat construction.

Specifications of 67-Foot Trawler

The above mentioned double rig trawlers are built from the Diesel Engine Sales 67-foot model, which has a beam of 18'6" and draft of 6'6". Their tonnage is 63 gross and 30 net, and they carry 6,000 gallons of fuel, 55 gallons of lube oil and 650 gallons of fresh water. The keel is 9 x 12 fir, and the 2 1/4 x 4 1/2 steam bent oak ribs are placed on 12" centers. Planking is 1 1/2" heart select cypress on the bottom and 1 1/2" vertical grain fir on top, and the bow stem is oak. Decking is 2 x 4 long leaf pine payed with Jeffery's marine glue. Engine beds are 10 x 10 long leaf pine, 26' in length, and floor timbers are bolted through the keel. Only the butts and garboard seams are caulked, and the hull is treated with copper naphthenate. The pilot house is cypress paneled, and Styrofoam insulation is used in the hold.

The *Southern Breeze*, *Southern Crest*, *Southern Wave*, *Sunshine* and *Alona Girl* are powered by a 150 hp., D342 Caterpillar Diesel with 3:1 reduction gear, turning a 50 x 34 four-blade Federal propeller. The *Frolic* has a D337 Caterpillar with 3:1 reduction gear, swinging a 50 x 44 four-blade Federal wheel.

All of these trawlers have Model 515 1/2 T Stroudsburg hoists, fitted with two winch heads (on the middle and upper drums), and especially designed for twin-rig operation. The vessels are furnished with Walter Clean-Flo keel cooler, 3" Tobin Bronze shaft, Goodrich Cutless rubber stern bearings, 1500-watt Petter Diesel auxiliary units, four 8-volt Yocam batteries, and Columbian rope. They are equipped with 7" Ritchie compass, Metal Marine



Two of the new 67' double rig shrimp trawlers built by Diesel Engine Sales, Inc., St. Augustine, Fla. Left: the "Frolic", owned by D. S. Peterson of Fernandina, Fla. Right: the "Southern"



"Wave", owned by Sidney E. Herndon of Corpus Christi, Texas. Both trawlers are equipped with Caterpillar Diesels, Stroudsburg hoists, Federal propellers and Columbian Rope.

automatic pilot, Bendix depth recorder, One-Mile-Ray searchlight, and 42" Marty's steering wheel. Gloucester Sea Jacket paints are used on the decks, deckhouses and hull, and Navicote anti-fouling paint on the bottom.

The double rig trawlers have a special 10" brass towing block on each outrigger, supplied by Hammond Foundry. Madesco tackle blocks include four 6" double type, four 4" double, one 8" double and two 8" snatch blocks.

First Trawler Built at Ft. Myers Yard

The first trawler launched from the Fort Myers yard of Diesel Engine Sales, Inc. is the 53-foot *Ridala*, owned by Roman Kaevando of Port Isabel, Texas. A second boat now is being built for Beach Shrimp Co. of Fort Myers.

The *Ridala* is powered by a 126 hp., D326 Caterpillar Diesel with 3:1 reduction gear, swinging a 42 x 26 Federal propeller. Her construction is similar to the 67-footers, with the exception of 14" centers on framing and 18" engine beds. Tonnage is 35 gross and 14 net, and she has capacity for 1,000 gallons of fuel, 180 gallons of fresh water and 25 gallons of lube oil. The vessel's equipment,

including a 515½T Stroudsburg hoist, is essentially the same as the larger boats', although her compass is a 6" Ritchie model and she has a 36" steering wheel.

A recently built conventional rig trawler from the St. Augustine yard is the 67-foot *Phikeia III* owned by Fred Beasley of Crescent, Georgia. Sold through Morgan's, Inc. of Savannah, this vessel has a 210 hp., 6-110 General Motors Diesel with 4.5:1 reduction gear, driving a 50 x 42 five-blade Federal propeller. She has a Stroudsburg hoist and 750-watt Onan light plant. Another new 67-foot, Caterpillar-powered shrimper is the *Rio San Lorenzo* which is fishing out of Mexico.

Among the many other vessels built by Diesel Engine Sales during the past year were three additional members of the Lyco fleet—*Lyco VIII*, *Lyco IX* and *Lyco X*. These make a total of ten trawlers, numbered consecutively, which the yard has built for F. K. Lytle of Sioux City, Iowa, for operation out of Aransas Pass, Texas. The three newest Lyco boats have 150 hp., D342 Caterpillar Diesels, 4 kw. water-cooled Onan light plants and Stroudsburg hoists.



New 53' shrimp trawler "Ridala", first boat built by Diesel Engine Sales of Ft. Myers, Fla., Inc. She is owned by Roman Kaevando of Port Isabel, Tex., has D326 Caterpillar Diesel, Stroudsburg hoist.



A conventional rig shrimper recently built by Diesel Engine Sales, Inc.—the 67-foot "Phikeia III" owned by Fred Beasley of Crescent, Ga. Equipped with 6-110 General Motors Diesel and Stroudsburg hoist.

Massachusetts Officials Ask New Fishing Regulations

Eleven bills have recently been filed by Howard S. Willard of Quincy and Frederick C. Wilbour, Jr. of Westport for added regulations concerning the taking of lobsters, oysters, scallops and bass.

Willard, director of law enforcement and Wilbour, director of marine fisheries, have petitioned the Legislature for regulations concerning certification and tagging of scallops, already required for clams and quahogs. They also would make it legal to have a V-punched lobster or female lobster that no longer bears eggs.

One of the petitions would abolish the provision whereby a fisherman in Barnstable County may take striped bass up to 10 percent of his catch by use of a seine. Still another provision provides for repeal of a law which permitted dragging in certain areas of Cape Cod Bay. Other measures would establish a minimum size for oysters taken and would provide that shad be taken only by hook and line.

Still other measures proposed, relative to powers of law enforcement division of the department of natural resources, would seize boats and equipment used in violating certain marine fishing laws. Another, relative to powers of law enforcement officers, would demand of persons engaged in marine fisheries activities to produce their licenses or permits for inspection.

Shellfish Law May be Amended

A bill was filed in Boston last month which would amend shellfish laws to include scallops under sections of the act concerning sanitary requirements. Up until now the scallop industry has been exempt from shellfish laws because the product landed at the dock is meat and not in shells. The amended law will apply to bay and deep sea scallops.

Filing of the bill resulted from cutoff of the sizable Florida market for scallops. Florida is stopping sale of Massachusetts scallops unless the shellfish is handled by vessels, processors and packers certified by the State Dept. of Public Health. Industry leaders are asking boat owners to conform with shellfish law standards for their vessels handling scallops until the law becomes effective.

Also discussed was the feasibility of limiting the number of days a scallop vessel may fish, the time scallops may be allowed to stay on ice before sale and other factors, to insure a quality product.

On First Phase of Herring Cruise

The exploratory fishing trawler *Delaware* left East Boston on December 12 on the first phase of a cruise program devoted to exploratory trawling for herring. The cruise is scheduled to continue through February 7, 1958. Plankton tows for herring larvae will also be conducted during the first phase which is being made primarily to assist the U. S. and Canadian biologists in their study of the North Atlantic herring.

Otter trawl fishing with Danish herring trawls will be conducted in Passamaquoddy Bay and on the northeastern edge of Georges Bank. Plankton tows will be made from Seal Island, Nova Scotia to Georges Bank. Otter trawling for sardine-size herring will be conducted in the Gulf of Maine area during the January and February portions of the cruise.

Trials will be conducted with a new Bendix Decca Navigation system installed during a recent overhaul. This system, a direct reading one, should be of value in plotting tows and other fishing information.

Fish Odors Discussed at Boston Meeting

The New England Fishery Technologists met in Boston last month and heard a talk on odors and odor control.

Nicholas Post of Airkem, Inc., New York City, international firm of odor control specialists, delivered the lecture. His talk was entitled "The Counteraction of Fish Processing Odors" and dealt with the sources of processing odors.

The odor characteristic intensities were reviewed and a critical review of odor control methods were made. These methods include dispersion, combustion methods, chemical methods and odor modification. The principles of Airkem odor counteraction were defined and techniques for determining odor pairs were explained. A relatively simple and effective method for the application of odor counteractants to odor nuisance sources at the plant was discussed and the advantages of this method of application were described. Methods of controlling odors aboard fishing vessels were also discussed. Specific applications were described.

GLOUCESTER To Have Fisheries Bureau Office

The main office of the Bureau of Commercial Fisheries, Region Three, will be located in Gloucester. Region Three, including New England and Middle Atlantic states Virginia and West Virginia, is the largest in terms of population and fish production of any in the country.

Joseph F. Puncocchar will serve as regional director in the new office, which, will be available shortly after the first of the year.

A new technological laboratory will be constructed on Emerson Ave., along with an exploratory fishing and gear unit on the State Fish Pier. The new office will have a staff of six, but more are expected to be added to the force later on.

Sees Need for Fresh Fish Firm

Alphonsus Hayes, business agent for the Gloucester branch of the Atlantic Fisherman's Union believes that a good cure for Gloucester's fishing ills would be a fresh fish firm where fishermen could land their catches of groundfish.

Hayes stressed the fact that Gloucester is nearer to the fishing grounds and that after boats arrive there are no automatic levies for wharfage and scalage, and there are no Exchange fees.

Would Clean Gloucester Waterfront

In an effort to clean up Gloucester's waterfront facilities, City manager Richard W. Mayo and Benedict A. Kerr, president of the Chamber of Commerce have written letters to every known owner of the 11 abandoned vessels which are now cluttering up the waterfront.

Although the letter is intentionally mild-mannered, it has been learned that if the request is not complied with, further action will be taken.

NEW BEDFORD Landings Increase

November 1957 fish landings topped last year's total for November by 2 million pounds. Yellowtails, fluke and scallop landings were responsible for the increase.

Scallop prices hit a high of 59.6 cents a pound on December 16, the highest price paid for the shellfish since last February. The price of yellowtails on that day dropped to 5 and 7 cents a pound from 24 cents two days before. Yellowtail made up 103,500 pounds of a total of 111,500 pounds landed on December 14.

At Christmas time 43 vessels came into port for the holidays and unloaded 273,500 pounds of scallops. This was the first time in more than four years that a one-day total had reached that figure for scallop production.

Fairhaven bay scallopers reaped a record of 44,500 bushels during the first 42 days of the season and some fishermen were continuing to bring home their limit late last month. Joseph B. Goulart, the town's shellfish inspec-

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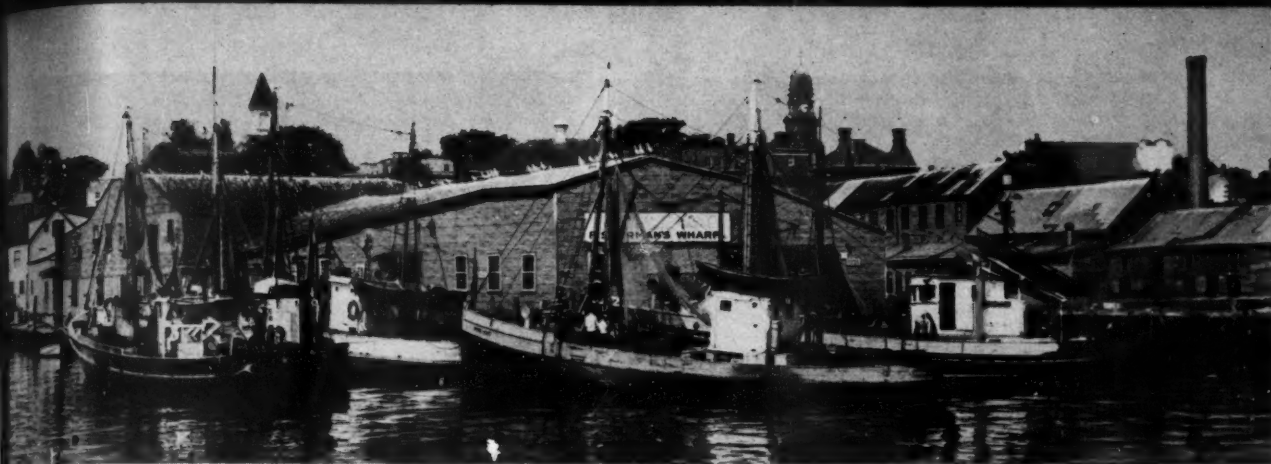
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Boats at Fisherman's Wharf, Inc., Gloucester, Mass.

tor, is hoping for even a bigger year in 1958 due to transplanting this fall.

At Edgartown on December 10, scallop fishermen were plagued by a northeaster which scattered and swamped a number of small craft, but which washed bushels of scallops onto the beach along the harbor front. Since the shellfish were high and dry on the beach persons harvesting them could do so without worrying about exceeding the legal limits of one-half bushel for a family or two bags commercially.

Provincetown Has New Fish Exchange

A Port of Provincetown Fish Exchange on MacMillan Wharf was scheduled to open January 2 in the Seafood Packers, Inc. building.

The exchange or auction, which will allow the sale of fish catches in Provincetown to the highest bidder, is expected to induce boats from other ports to come here to sell their fish, as well as attract buyers from any place in the country. The exchange will operate from 9 to 9:30 A.M. daily except Sundays and holidays.

The exchange which will be for fish and scallops, will give Provincetown fishermen a chance to get higher prices for their top quality fish caught daily.

New Fish Plant in Provincetown

The Baxter Fish Co., shut down since the construction of the new MacMillan Wharf has been sold to a Plymouth firm and is expected to resume operations soon. The new plant, to be known as Puritan Fish Co., will employ three men. However, Alfred Souza, owner anticipates that eventually the operation will be bigger than his Plymouth Fish Co. in Plymouth which employs six.

The plant will handle fish for animal food as well as fish for human consumption, and the fish will be purchased from the fishermen of the town.

Nantucket Fishermen's Recommendations

The Nantucket Fishermen's Association has submitted two recommendations to the Board of Selectmen, one empowering the shellfish warden to close the scallop season for one day in a storm emergency for recovering and replanting of any seed scallops that might wash ashore.

The second suggests the transfer of three spar buoys from Madaket Harbor to Tuckernuck Island. It was felt by the fishermen that the spar buoys were needed at Tuckernuck Island because many fishermen go there for scallops and are apt to strike shoal spots.

Fine Clarks Cove Scallop Crop

Clarks Cove area produced a bumper crop of bay scallops this season, with a total of 35 scallopers gathering over 2,000 bushels from the opening day, October 1, to December 1, compared with 381 bushels last year.

Maine Continues Air Bubble Herring Control Tests

A second series of "air curtain" tests were made in Maine by the Bureau of Commercial Fisheries shortly after the first was completed. With the exception that 700 feet instead of 500 feet of perforated plastic pipe and a larger compressor were used, the gear was essentially the same. Observations were made from airplanes and boats.

The first trial showed that herring schools strongly resist passing through a curtain of air bubbles. In some of the trials the movements of schools was altered and in one case the school was completely stopped.

The objective of the second series of trials was to find out if the schools of herring could not only be stopped or guided but if they could be driven before an advancing air curtain.

Driving trials were made on herring that had been shut off in Pound Pond on Muscongus Sound, Me., during the night. A Sardine seine had been set up across the middle of the pond after the herring had moved into the south end of Round Pond. During the next afternoon the air discharge pipe was laid along the seine where the herring had concentrated and then doubled back to the shore forming a U shape. The air compressor was turned on, surrounding part of the school with an air curtain.

The pipe was then pulled slowly toward the shore until a position about 60 feet from the shore was reached. At that position, the pipe was left while observations were made. The herring were swimming about looking for a place to escape. An attempt was made to drive the fish through the air bubbles by frightening them. But, when they came against the air curtain they swam along it, instead of going through. As the pipe was pulled the rest of the way to shore the fish were forced through the bubbles while a few escaped under the curtain as the pipe was lifted over a large rock.

During trials the next day some of the fish ran through the curtain when an outboard motor was run at an end of the curtain. During the third day of trials, they would rush to the surface and flip in the air as if chased by predators. The results to date show that Atlantic herring, particularly when in open waters resist crossing through a curtain of air bubbles set up in the described manner.

Trawler Fleet Considers Contracts

Crewmen of the six trawlers of 40 Fathom Fisheries and company officials were making preparations last month to open contract negotiations soon. Thus far the fleet has been operating on a verbal agreement and prior to their first trip they were given an opportunity to choose between two plans for pay purposes.

One was the traditional 60-40 lay in which the crew

receives 60 percent of the earnings after expenses and the company the remaining 40 percent. Another was one cent per pound for the fish landed and the company would pay all expenses of the boat. The crews were given a year in which to determine which of the two plans they preferred and name the one which gave them the best income.

The fleet is fishing through the winter for the first time in several years, giving work not only to the crews but to the fillet plant workers who process the fish at Rockland. Arthur Thurston, general manager of the plant and fleet, has previously said that he is attempting to add at least two more boats to the fleet by next spring.

Also in the offing is the establishing of a whiting business in the same plant, with privately owned trawlers landing catches, possibly as soon as next summer.

Production Increase in September

Landings of fish and shellfish at Maine ports during September totaled 37.2 million pounds valued at \$2.4 million, an increase of 10 percent in quantity but a decline of 5 percent in value. The increase in volume was caused chiefly by heavier landings of ocean perch and herring. The decline in value was the result of a drop of 4 cents a pound in the price of lobsters.

During September, herring led all other species with a total of 22.2 million pounds followed by ocean perch, 7.1 million pounds; and lobsters, 4.5 million pounds.

Total landings at Maine ports during the nine-month period ending with September amounted to 238.4 million pounds valued at \$12.7 million. Landings for the same period of 1956 amounted to 220.1 million pounds valued at \$12.6 million. Leading items for the nine months of 1957 were herring, ocean perch, lobsters and whiting.

Seiners and Weirmen Hold Election

At the second annual meeting of the Coastal Seiners and Weirmen's Association in Rockland last month, Ralph Byers of Winter Harbor was re-elected president. Other officers elected were: Clinton Barlow of Boothbay, honorary president; Ray White of Cape Porpoise and Albert Barlow of Boothbay, vice-presidents; Hugo Lehtinen, Jr. of St. George, treasurer; and Richard McVane of Portland, secretary.

On the executive board are: John Dyer of Cliff Island, Harold Urquhart of Lubec, Henry Jones of South Bristol, Hugo Lehtinen, Sr. of St. George and Edward Shea of So. Harpswell.

The 53 members present decided to join the marine division of the State Civil Defense. The seiners and weirmen who spend about seven months of the year at sea, would greatly increase the effectiveness of Civil Defense by using their radios to notify the authorities of low flying, unidentified aircraft which cannot be detected by radar.

Sardine Inventories High

Maine sardine cannerys were hopeful last month that they would be justified in raising prices after the first of the year and that this would restore some confidence and induce distributors to increase their stocks somewhat. Maine packers have larger inventories than a year ago by about 27 percent and 106 percent larger than the stocks of December 1, 1955.

Georgia Production Rises

Landings of commercially caught fish and shellfish at Georgia ports during September totaled 2.6 million pounds. Compared with the same month of last year, this was an increase of 168,000 pounds. Two principal species—shrimp and hard crabs, accounted for 98 percent of the month's total landings.

During the first nine months of 1957, total landings amounted to 13.4 million pounds—an increase of 1.4 million pounds compared with the same period of the previous year. Hard crabs and shrimp were largely responsible for the increased landings during the 1957 period. Other species of importance were king whiting and snail.



Examining lobsters packed in wood shavings at Rockland, Me. Left to right: A. C. McLoon, H. W. Look, Sr., Raoul Halewyck, Robert Dow, Leslie Dyer, and Pierre Devriendt.

Wood Shavings May Reduce Lobster Shipping Costs

A NEW and apparently very successful method of shipping lobsters alive that is contrary to the time honored double-barrel and seaweed method has been demonstrated at Rockland, Me. Realizing the great saving of weight, ice, and eliminating the messiness of the seaweed, the lobster is placed simply in dry softwood shavings in a cardboard box.

Raoul Halewyck, head of the Huitriere Halewyck & Cie, Ostend, Belgium and Pierre Devriendt, Blackenberg, Belgium head of the Oesterpark Huitriere, recently completed the demonstration for Rockland lobster dealers. Halewyck, president of the Belgian Shellfish Importers Association which runs pounds in Belgium and Holland, is setting up a bulk shipping of lobsters by air, to his pounds in Europe.

Halewyck and Devriendt came to the U. S. last month and spent some time with Boston lobstermen. Finally Halewyck made up a package of 50 lobsters in a cardboard container. The lobsters were put on a layer of shavings and then more shavings were added, then more lobsters. The process was followed until the container was filled. On arrival in Europe, 30 hours after shipment, 47 lobsters were alive and active. One was weak and the other two were still boilable.

Leslie Dyer head of the Maine Lobstermen's Association, Robert Dow of the Maine Department of Sea and Shore Research and lobster dealers, including Harold L. Look, Sr., and son Harold, Jr., met with Halewyck and Devriendt at Rockland, Maine to set up an experiment for showing further the possibility of bulk shipment.

A control barrel of typical Maine style—iced outer barrel with weed and 25 lobsters in the inner barrel—was packed with 25 lobsters. Three other packages were made up. The first was a simple cardboard box with 40 lobsters in layers of dry shavings. The second was a wood and cardboard box with 40 lobsters in dampened shavings. The third was another dual barrel, iced, but with the lobsters in damp shavings. All were put aside on the pound floor without further refrigeration for 27 hours.

When the first box was opened 39 lobsters were alive and strong. One was weak but recovered after being put in the water. In the second box, 35 were alive and kicking. Five were weak but 2 revived fully. The third showed 100 percent life.

Look said that if the shipping idea was continuously successful, as the first experiments were, it would bring a new concept to lobster handling. The lobsters were dried out for fifteen minutes before they were packed in the shavings, and seemed to lose very little during shipment, a reversal of the concept that lobsters must be kept wet to be kept alive.

Florida Scientists Suggest Changes in Sponge Industry

Changes in management and harvesting practices could make the sponge business more stable and prosperous, according to a study of the industry by scientists of the University of Miami's Laboratory. It is suggested that only sponges having a diameter of not less than six inches should be harvested and that mature sponges should be transplanted during the spawning season.

The yield of natural sponges in the Gulf of Mexico has never even approached the harvests that were obtained in the years prior to 1938 when the blight caused such havoc. Before the synthetic variety of sponges came into being, one-quarter of the natural sponge production was being absorbed by home makers, the same fraction by the pottery industry and half by painters, decorators and cleaners.

The scientists believe that under proper management the sponge beds available to the industry could be about doubled in area in ten years. This growth would be achieved by permitting desirable species of sponges to grow undisturbed until they had time to reproduce.

The laboratory researchers maintain that a commercial sponge less than six inches in diameter is immature and has not had time to reproduce, and that between 15 and 25 percent of the sponges being harvested at present are less than six inches in diameter. Such practice, it is said, reduces the gross harvest.

Marine Lab to Get \$25,000

A \$25,000 contribution to the building fund of the Marine Laboratory of the University of Miami has been received from the James Foundation of New York. The gift will aid materially toward completing the laboratory building program at Virginia Key. The laboratory now has three buildings but still lacks space. Completion of the main building, occupied in July, has been held up due to lack of funds.

Cold Weather Slows Red Tide

Cold weather early last month helped break up concentrations of the fish killing red tide along the lower Florida west coast. Scattered dead fish still were present in Gulf waters from Clearwater to Venice—about 70 miles—but all appeared to have been killed some time ago. Below Venice, the Gulf is clear of both dead fish and discolored water.

Earlier in the month officials at St. Petersburg appealed for laborers to aid in removing thousands of dead fish which had piled up on the beaches as victims of the red tide.

Waters off the area between Fort Myers and the point just south of Punta Gorda were reported clear, but a few dead fish were seen between Placida and Sarasota at the mouth of Tampa Bay and at the south end of Pass-a-Grille Beach.

Mullet Catch Increases

Mullet and shrimp made up 61 percent of the 9.6 million pounds of fish and shellfish landed in Florida during September, due to a 317 thousand pound increase of mullet from September 1956. Shrimp landings were less, as a result of the comparatively better fishing in waters off the Texas coast. Total landings during the first nine months of 1957 amounted to 122.3 million pounds because of the 2.4 million pound rise in mullet over the same period of 1956.

Urges Use of Mullet

Conservation Director Ernest Mitts recently urged fish lovers to try Florida mullet which is now being processed and canned at Miami and Sarasota. The State Conservation Department is trying to pep up the sales of mullet. The fish is still the number one catch in Florida but the market value has declined.



The "Violet K.", 55' Hatteras Trawler owned by John Kochins of Charleston, S. C. She was built by Morehead City (N. C.) Shipbuilding Corp., and has 6-110 General Motors Diesel, Onan auxiliary generator, Surette batteries, Stroudsburg hoist, Metal Marine automatic pilot and Ritchie compass.

So. Carolina Landings Mostly Shrimp

Fish and shellfish landings in South Carolina during September amounted to 3.3 million pounds. Shrimp and mullet comprised 71 percent of the September total. Other leading species were menhaden and blue crabs.

Shrimp catches were considered fair to good during September. Catches increased as white shrimp began to move out of the rivers and bays. Haul seine fishing in Horry County began immediately after Labor Day and liberal catches of large-size mullet were landed.

During the first nine months of 1957 receipts totaled 17.2 million pounds. Leading items during this period were menhaden, shrimp, hard crabs, mullet and oysters. These five items represented 98 percent of the total landings during the nine-month period.

New Shrimper "Karen" Sails

The shrimp trawler *Karen*, largest boat ever constructed at Folly Beach, sailed early in December for Florida. The vessel measures 67 feet in overall length and has a 19' 3" beam. The framing is thick tempered oak and the planking is cypress. She is powered with a 160 hp. Caterpillar Diesel. Designed by Manuel Koutelas of St. Augustine, Fla., the *Karen* is owned by Carl Ott and her skipper is Capt. R. W. Wingate. She carries a crew of three. Ott says he plans to use the new boat for shrimping from South Carolina to Florida.

New Jersey Clam Production Up

Landings of fish and shellfish at New Jersey ports during September, exclusive of menhaden for reduction, totaled 3.4 million pounds valued at \$347,000 to the fishermen.

Cape May County, with 1.3 million pounds, led all other counties in the State. During September the species landed in greatest quantities were scup, surf clams, fluke and sea trout.

The inshore dragger fleet enjoyed good fishing weather most of the month, and in the latter part of the month the offshore trawlers landed fair catches of scup caught off Long Island.

During the first nine months of 1957, receipts of fish and shell fish, exclusive of menhaden, totaled 40.4 million pounds valued at \$5.0 million. Surf clams led all other edible items with 12.1 million pounds, an increase of 3.8 million pounds over the same period of the previous year. It also represents an increase of \$612,000.



Top—Oregon Troller "Cock Robin" with outrigger poles mounted. Bottom—Forward view of cabin showing navigating instruments including Surecho depth sounder.

"Cock Robin": Commercial And Comfortable

C. W. Michael's boat the *Cock Robin*, because of many comforts not found in the general run of fishing boats, has much in common with a yacht. But, contrary to appearances, she is a highly successful commercial troller fishing out of Astoria and Warrenton, Oregon.

With an overall length of 40' and beam of 10' 9", the boat has a cabin and deck that were built on a Navy Launch hull in 1952, with 2" Red Alaskan cedar up to the rub rail and 1½" Port Orford cedar above. Power is supplied by a 185 hp. Cummins Diesel.

The troller is equipped with Kolstrand gurdies powered with 12-volt electric starting motors, V-belted down to 80 rpm. She has aluminum outriggers that have proven highly satisfactory. A cork insulated fish box carries 1200 pounds of crushed ice for keeping fish three days, although most of the fishing is done close in and she is in port at least every other night.

Other equipment includes electric anchor winch, two radio receivers besides 100-watt Northern ship to shore, two direction finders, Surecho depth sounders, wind indicator, electric windshield wipers, and a Sudbury plastic dingy.

Capt. Michael fishes alone or with Mrs. Michael as a "puller". All the catch consists of Chinook and Silver salmon, taken on #5 or #6 Mahon or Canadian Wonder Brass or ½ and ½ spoons, green and white Hula Dancers, or Mustad hooks baited with herring. A 12" chrome flasher is usually used on each line. In actual fishing off the mouth of the Columbia river, the catch of the *Cock Robin* has averaged right along with all the other commercial trollers fishing out of Astoria and Warrenton.

Washington Meeting Predicts Good Sockeye Salmon Run

The International Pacific Salmon Fisheries Commission met in Seattle, Wash., December 16 and 17, to discuss the sockeye and pink salmon fisheries.

The meeting was open to the public and was called for four purposes: 1. Discussing gear trends and gear efficiencies during the 1957 season. 2. Reviewing the 1957 catch and escapement of sockeye and pink salmon in waters under the commission's jurisdiction. 3. Presenting general information on the progress of pink and sockeye salmon investigation. 4. Discussing possible regulatory controls for 1958.

Lloyd Royal, director of the International Pacific Salmon Fisheries Commission told the meeting that next year should be a good one for Fraser River sockeye.

Ten million fish or more are expected from the Adams River run, based on escapement four years ago and on conditions while the fish were in the spawning areas.

The Adams River run, which dominates this cycle for sockeye in the Fraser River system, is expected to provide five-sixths of the catch.

The Canadian fishing industry, as well as the Puget Sound industry, was well represented at the meeting, with Senator Tom Reid, F. D. Mather and A. J. Whitmore being present.

Arne Suomela and Edward W. Allen, U. S. members, also were present, as was Milo Moore, director of the Washington Department of Fisheries.

Ed Vernon, a member of the commission staff, made a report on pink salmon and reported that barring the construction of dams, pink salmon production should rise.

Retires from Oyster Growers Assoc.

Malcolm Edwards last month announced his resignation as Managing Director of the Pacific Coast Oyster Growers Association, effective January 1.

One of his major activities has been negotiations for purchase of seed from Japanese oyster growers, and supervision of the packing and shipping of the seed in the spring.

It is understood that Mr. Edwards was to leave soon after Christmas for Japan to participate in buying seed for Coast Oyster Co., South Bend, Wash.

Petrale Sole Regulations Changed

Regulations on the incidental catch of petrale sole in the Washington otter trawl fishery during the closed season December 20 through April 15, have been changed in two respects. The catch will be cut from 6,000 to 3,000 pounds and for the first two months of the closed season there will be no incidental tolerance for Washington fishermen. According to Milo Moore, director of the Department of Fisheries, the decrease in the limit is due to the declining abundance of the fish.

Seattle Receipts for November

Fresh and frozen fish receipts at Seattle during November 1957 totaled 5.6 million pounds, compared with 5.2 million pounds for the same month in 1956.

Affecting receipts considerably in November was the almost complete closure to salmon fishing on Puget Sound on October 31, a step taken by the Washington State Department of Fisheries as an emergency measure due to the lowest water conditions in the salmon spawning streams of the Pacific Northwest in many years.

All sablefish fishing was suspended on October 31 as a conservative measure. Prior to 1956 the Seattle long-line fleet operated in the sablefish fishery until such a time as the taking of halibut while fishing for other food fish, in the proportion of 7 to 1, was suspended by the Pacific Halibut Commission.

In November 1957, Gray's and Willapa Harbors were

open to salmon fishing, but the production, chiefly chum salmon, was negligible.

Due to the closure of the crab fishery in ocean waters off Washington until December 15, most of the crabs reaching Seattle were from the open waters of Puget Sound and the volume was light.

Receipts of Pacific oysters at Seattle during November showed a gradual increase throughout the month. However, the poor weather conditions had some effect on the production of this important winter fishery item.

Pacific Fisheries Names New Manager

Lawrence Calvert, president of San Juan Fishing & Packing Co. of Seattle recently announced the appointment of E. Arthur Williamson as resident manager of the Prince Rupert operations of Pacific Fisheries, Ltd., a subsidiary of the San Juan firm.

Williamson will be in charge of the complete Pacific fisheries operations for salmon and halibut fishing and processing. He replaces Charles E. Starr, former resident manager who retired at the end of the 1957 fishing season.

Elected Head of Puget Sound Cannery

Mel Hलगren of Farwest Fishermen, Inc. Anacortes, has been elected president of Puget Sound Cannery, Inc.

Other officers are Norman Weitkamp of the Washington Fish & Oyster Co., Seattle, vice-president; Dan Franett of the Nakat Packing Corp., Seattle and Anacortes, treasurer, and Herald A. O'Neill, Seattle, executive secretary.

A resolution adopted by the organization said that high-seas fishing by the Japanese has made substantial inroads on red-salmon stocks of Bristol Bay, Alaska, and added that it is essential that the Dept. of State take immediate action to prevent the depletion and destruction of the fishery by the Japanese.

Warns Fishermen of Russian Competition

Lee Alverson, biologist with the Washington Department of Fisheries stated recently that Russia's fast-growing fishing fleet will soon be a strong competitor for the world's marine-protein resources.

Alverson said he was impressed by what he learned of the Russian fleet during the recent United Nations-sponsored World Fishing Gear Congress in Hamburg.

Russia now has about 1800 long-range trawlers from 120 to 220 ft. long, with 22 of them in operation in the North Atlantic. The stern on these vessels is designed with a chute so that one net can be taken aboard while another is shot out for trawling. Only one boat on the Pacific Coast—the trawler *Deep Sea*—is comparable to the 1800 Russian boats.

Advanced methods also are shown in the Russians' use of a pump system to take herring in the Caspian Sea. The Russians also are experimenting with an electric field to aid in attracting and guiding fish.

Moorage Rates Increased

Port of Everett commissioners have voted a 25 percent increase of fishing boat moorage rates over the loud protests of the local fishermen. Purse seine operators will pay \$343.75 a year for moorage and use of a new shed under the new rate structure, against the previous \$275. Gillnetters will pay \$7.50 a month instead of \$6.

The fishermen finally agreed to the rates if a three-year lease at a firm figure were given, and if they could pay the first and last months' payments on the lease and make the other payments on monthly installments.

Fish Counter Installed

A Denil fish ladder, and an automatic fish counter, first in the State of Washington, have been installed on the Coweman river near Longview-Kelso. The fishway opens some 15 miles of spawning waters for chinook and silver salmon and steelhead. The "electric brain" counts the numbers of fish using the ladder and records the hour they go up, on a clock-driven chart.



THE "LADY OLGA" owned by Capt. Monrad Farstad of Seattle, Wash. is one of the newest in the fleet. The 60' schooner has RCA Radio-marine telephone, Wood Freeman automatic pilot, and Ioran.

The fish counter was developed by a research team of the Fish & Wildlife Service, Pacific Salmon Investigations, Seattle, headed by Dr. Julius Rockwell, Jr.

The Denil fish ladder is a "swimming fish passage"—not the conventional pool-type fishway—with a continuous flume that turns the water back on itself at the flow rate of 4-11 feet per second.

The main advantages of the Denil ladder are that it takes a less elaborate structure, has a steeper slope, is self-cleansing, and is less expensive.

California 1957 Season Has Three Major Developments

The year 1957 has proved to be extraordinary in recent California fishing history, according to a report issued recently by the California Marine Research Committee, composed of scientists engaged in the California Cooperative Ocean Fisheries Investigations. The report cited three major developments in the year—warmer water, a different sardine spawning pattern and the appearance of warm water fish in the north.

Attending the session of the committee held on Terminal Island on December 18 were Julian Burnette, chairman; Don Saxby, vice-chairman; John Hawk and Arthur Mendonca of San Francisco; Gilbert Van Camp, Sr. and Joe Mardesich of San Pedro, John Morris of Rolling Hills and Raymond Cannon of Los Angeles.

At the meeting it was reported that ocean temperatures on the whole were higher during 1957 than at any other time in history. The warming extended to a depth of a quarter of a mile, at least, in waters off California. The temperature of the sea surface at La Jolla reached the highest averages during the summer of any year in the past 26 years, and similar changes were recorded all along the coast. In some areas the temperatures daily ran as much as 5.5 degrees above the 1949-56 averages.

The general increase in temperatures was believed to be caused partly by a decrease in northerly winds over the year as compared to other years. The high temperatures, however, did not mean that a wave of southern water swept northward, but rather that the warmer waters came from the west or even northward. Generally, the decrease in colder winds from the north, plus the influx of warmer waters from either the west or a northerly direction, are considered to be the probable causes of the temperature increases.

Almost 30 times as many 1957 year-class sardines appeared in the live bait catch this year as in the previous

year. These sardines were spawned closer to shore than in previous years, and reached as far north as Monterey Bay. Indications are the 1957 class may be a large one, but it may be that their inshore origin just made them easier to catch.

The most exciting part of the unusual conditions of 1957, the scientists reported, is that they contrast so sharply with the conditions prevalent during the years 1949-56. Those years were in most respects remarkably similar. The data on the different conditions for 1957 will offer an opportunity to compare material strikingly different in nature.

The California sport fishery had its biggest catches in a decade with southern sportsmen finding unusually large amounts of bonito and yellowtail. Accompanying the increase was the appearance of many species of warm water fish much farther north than in previous years—dolphin as far north as Eureka, for example.

The report was prepared by the California Academy of Sciences, the Department of Fish and Game of California; the Hopkins Marine Station of Stanford University, the South Pacific Fisheries Investigations of the Fish & Wildlife Service, and the Scripps Institution of Oceanography.

All of the agencies engaged in a cooperative study of the pelagic fisheries of the state. The study was initiated after a drastic decline in the sardine fishery, once the state's richest, in the late 1940's.

Protest Attacks on Tuna Vessels

Following reported attacks on U. S. tuna boats from southern California by Chilean Navy planes which fired shots across their bows, the U. S. Government on December 20, protested to Chile that its actions were hampering U. S. fishing boats and were in violation of the law on the international high seas.

About 23 American tuna clippers, mostly from San Diego, were reported fishing off the Coast of Chile, well outside the three-mile limit commonly accepted as national waters by other nations, but within the 200 mile limit Chile claims jurisdiction over.

After being warned to leave by radio, the Chilean Government said Navy planes fired blanks at the American vessels in order to get them to leave.

American officials in Chile said that diplomatic officials in Chile might iron out the difficulty by having American craft obtain permits to fish in the area.

New Fish Company Formed

Consolidated Fisheries, Inc., which began operations in 1933 in San Francisco, is going out of business.

The firm operated the fresh fish department of the F. E. Booth Co. cannery in San Francisco and was headed by I. Alioto, president and L. F. Hubbard, secretary-treasurer.

The Lazio Fish Co. of Eureka has bought the firm's two boats and also the plant equipment. A new company has been formed to handle the Booth Company fish-purchasing operations. It will be known as Consolidated Fish Co., and will be operated by Sal Alioto, a brother of I. Alioto and Joseph I. Alioto, a son of I. Alioto.

Fish Marketing Discussed

The fifth of the conference series of the Southern California Fisheries Assoc. was held last month, at which time successful fish marketing was discussed. C. H. Senn, of the Los Angeles City Health Dept. conducted a forum on fish sanitation and J. H. Mitchell spoke on "Secret rebates and deals under the counter."

A discussion on how to sell more fish produced 35 ideas in about 20 minutes. These 35 ideas are to be edited and presented to the members for future action.

At the regular December meeting of the Association, J. H. Mitchell outlined how the State Fish Marketing Act could be amended to provide for State collection and administration of funds for use in advertising and promoting seafood sales.

Shellfish specialties were the December seafoods of the month, with ludfish, salmon and sea bass as companion items.

Monterey Sardine Catch Increases

Monterey, showed a season catch for 1957 of 9,200 tons of sardines as compared to 6,000 tons through December, 1956.

High winds and stormy weather through the first part of the December dark kept the San Pedro sardine fleet in port much of the time, hindering efforts for a good finish to the local sardine season.

Up to December the seiners had caught about 8600 tons of sardines, as compared to 23,900 this time in 1956.

Tuna Clipper Burns, Sinks

The San Diego tuna clipper *Magellan* burned and sank on the 3rd of December, 380 miles south of San Diego.

Capt. John L. McCall, skipper and owner, reported that the auxiliary engine backfired as they were priming it with gas, and the fire from the resulting explosion spread rapidly through the bilge. Capt. McCall was severely burned on the arms, and as the flames neared the fuel tanks, he ordered the men overboard, fearing the ship would blow up.

Another San Diego tuna clipper the *Golden Glow* sighted smoke from the burning vessel and preceeded to the scene and picked up the survivors.

The *Magellan* was one of the oldest vessels in the San Diego fleet and carried a crew of 10.

Oregon Cuts Tax on Shrimp Processed in State

In a move aimed at setting the stage for development of a new industry in Oregon, a special session of the state legislature recently enacted a bill which cut the tax on shrimp processed in Oregon from \$15 to \$2 a ton.

When the bill was before the legislature, Rep. William Holmstrom of Gearhart explained that new machines have been introduced in the Northwest which make it possible to process Oregon's small shrimp economically.

Two of the new processing machines have been installed in plants in Oregon and other plant owners had indicated a desire to get into the business if Oregon did cut the tax on processed shrimp.

The tax reduction will enable the state to compete with Washington where the state tax is about \$1.60 a ton. Another man, Rep. John Mosser, noted that the state would not lose revenue through the tax cut but would gain money since no one had been paying the tax at the higher rate.

Landings Highest in Years

Oregon landings of fish and shellfish products taken commercially during the 1956-57 license year were the highest of the past nine years.

Harrison S. Smith, fish commission auditor, said a total of 60,456,000 pounds of fisheries items was reported by Oregon fish buyers during the period April 1, 1956—March 31, 1957. The total represents an increase of some 14 million pounds over total poundage reported for the previous year. The greatest increase was in deliveries of crabs. Deliveries of bottom fish, albacore tuna and troll-caught salmon were also higher.

The net increase in 1956-57 landings of marine fishes, including albacore, crabs and clams amounted to 13 million pounds. Reported deliveries of salmon, shad, sturgeon, smelt and striped bass showed a net increase of one million pounds. The highest landings of fisheries products in Oregon prior to this year occurred in 1948 when total landings exceeded 74 million pounds.

National Motor Boat Show Has Exhibits Of Interest To Fishing Boat Owners

A RECORD number of 397 exhibitors displayed their marine wares at the 48th Annual National Motor Boat Show held in New York City, January 17 to 26. The displays were presented by 130 boat builders, 29 engine manufacturers, 229 accessory and service firms, and eight marine educational organizations.

Sponsored by the National Association of Engine and Boat Manufacturers, the Show occupied four floors of Manhattan's Coliseum. Many of the exhibits included products of interest to commercial fishing boat owners, and a brief review of some of these follows.

Keyed Propeller Shaft of Tobin Bronze

Tobin Bronze propeller shafting was represented at the American Brass Company exhibit by a 700-pound Tobin Bronze shaft, keyed and filleted according to the latest SAE standard marine propeller shaft and dimensions. Other Tobin Bronze and Tempaloy—aluminum bronze—shafts in graduated diameter sizes were shown. Everdur, the copper-silicon alloy group was represented in the form of deck and hull fastenings such as mast, spar and deck fittings, and turnbuckles.

American Metal Hose Division products including flexible bronze assemblies for fuel, air and water lines, corrugated steel exhaust hose, flexible stainless steel assemblies and Sealtite, the flexible moisture-proof electrical wiring conduit, were displayed.

American Marc Has Lightweight Diesels

American Marc had on display various models of lightweight small Diesel engines plus two new products. The AC-1 is a vertical, one-cylinder four-cycle air-cooled engine delivering 6.5 bhp. at 1800 rpm. At 27.4" long, 19" wide and 24" high it is used to power small pumps, compressors or 3kw generators.

The two-cylinder, V-type air-cooled Diesel developing 14 bhp is the AC-2. A third model the WC-2 is the water cooled version of the AC-2.

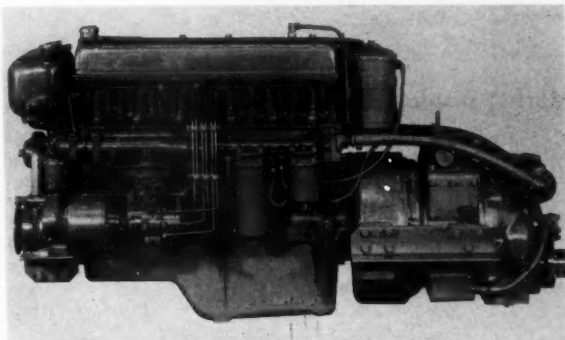
Also shown was the KBA-695 Diesel electric plant powered by the AC-2 engine. A permanent magnet Diesel driven unit it is equipped with isochronous hydraulic governor which holds the engine speed constant throughout the kw range of the unit. The model is rated at 5 kw., 60 cycle, single phase, with a wide margin of overload capacity. The other new product introduced was a 7½ hp. Diesel outboard motor.

Gray Marine Adds Four Engines

Engines offered for 1958 by Gray Marine Motor Company, a subsidiary of Continental Motor Co., list 21 gasoline and 6 Diesel models. Additions to the Graymarine line are two new V-8s, 160 and 225 hp., a new 85 hp. four and a 190 hp. Diesel six. The engines available are offered in 18 basic sizes to cover the 25 to 225 hp range.

The 160 and 225 hp. Fireball V-8s, introduced in the fall, feature Velvet Drive, hydraulic gears, top-off-engine servicing. The new Four-85 has 85 hp. at 4000 rpm. Other Gray fours include 45, 60, 70, 75 and 90 hp. models. Ten Graymarine in-line sixes cover the hp. range from 109 to 200. The Warner Velvet Drive hydraulic transmission, is now available on most Gray fours and sixes and is standard on the Fireball V-8s.

Gray's Diesel Six-D427 is now rated 130 hp. at 2400 rpm., intermittent, and 100 hp. at 2400 continuous duty.



The 130 hp. Graymarine Diesel Six-D427.

New this year is the Six-D802, 190 hp. at 2200 rpm., with an 802 cubic inch block of chromium-molybdenum-iron alloy. All Graymarine Diesels are the four-cycle type and feature fresh water cooling as standard equipment.

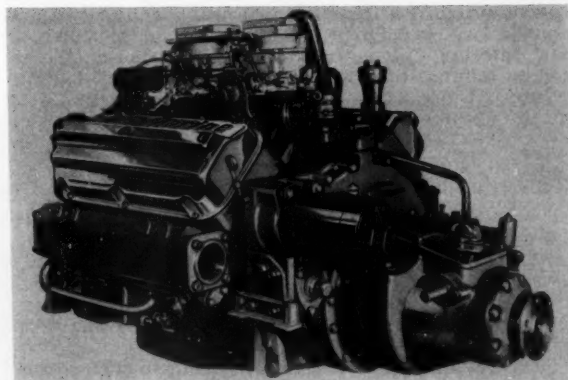
Chrysler Marine Engines Exhibited

Largest engine in the Chrysler Marine line is the Imperial V-275 hp. engine, followed by the Imperial V Special, rated at 225 hp. The Chrysler hemispherical design combustion chamber is used to gain top efficiency. Both engines have 354 cubic-inch displacement.

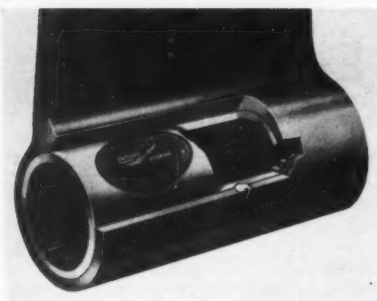
All V-8 engines of the Chrysler Marine line include such features as completely water-jacketed cylinders, fully enclosed oil lines, centered spark plugs, overhead and lateral valving with larger and wider spaced valves.

In addition to the V-8 line there are four other Chrysler marine engines. They are: Chrysler Ace 95 hp., Ace Special, 110 hp.; Crown, 125 hp.; and Crown Special, 135 hp.

Reduction gears for the entire Chrysler line are the internal gear and pinion type with helical teeth. All gears are mounted on ball bearings with centers adjustable to proper alignment. They are available in 1.43, 2.04, 2.56, 3.17, and 3.95 to 1 reduction. Vee drives are available in the 1.13, 1.42, and 2.05 to 1 reduction.



Chrysler Imperial V-275 marine engine, which is rated 275 hp.



Left: Cutaway section of a B. F. Goodrich Cutless rubber bearing in a strut.

Right: Miniskop Fishfinder-Depthsounder with a range of 500 feet, displayed by RCA Radiomarine.



Moffitt Displays Cutless Bearings

B. F. Goodrich Cutless rubber bearings, distributed nationally by Lucian Q. Moffitt, Inc., were displayed for the 34th year. Cutless bearings range in size from $\frac{3}{4}$ " to $1\frac{1}{2}$ " shaft size. Made of oil-resistant rubber, they are not effected by sludges and waste chemicals found in waters where boats operate. The bearings are lubricated by water to repel gritty abrasive particles. Special rubber also resists wear and heat.

Columbian Bronze Consultation Service

A full line of propellers, in various sizes, for all types of requirements, was displayed by the Columbian Bronze Corp. The firm is featuring an Engineering Consultation Service without cost or obligation. The Service is designed to give the ship operator individual technical treatment of his particular installation. It includes engineering data on design, production and trials.

Operators are invited to give Columbian all pertinent facts, including description and horsepower of engine, tonnage, dimensions and type of hull, type of propeller now in use and present performance data. Information on salinity, silt, and corrosiveness of water also is helpful.

Recommendations will comprise design, dimensions, number of blades, pitch, alloy to be used, and other features and will utilize Columbian's fifty years of experience in propeller technology.

One of Columbian's most important achievements is Electralloy, melted and refined in Columbian's exclusive Electric Induction Furnaces. This foundry method is said to result in propeller alloys of uniform molecular structure and freedom from flaws.

International Paint Introduces Winterkote

An entirely new booth featuring color panels of 38 colors including bottom paint and varnish panels was the highlight of International Paint Company's exhibit. Introduced was the new Pro-lux System, a new painting system designed to produce a beautiful appearance and provide large savings in labor costs. In addition to four new Interlux Colors, International introduced Winterkote, a coating to be applied over existing anti-foulings to prevent breakdown of the antifoulings and drying out of the hull during the winter months.

Pearce-Simpson Has 10 Channel Telephone

Pearce-Simpson showed several radio telephones including the "Islander" 30-TA, 30 watts input and the "Atlantic" 70-B, 70 watts input, both having 5 channel and broadcast band reception and cabinets of fiberglass construction. The "Carib" 130-A, 130 watts and 8 channels, and the M-7A, 150 watts and 10 channels, are available in mahogany, korina or teak cabinets.

Tiffany Sparkshields, designed to eliminate engine electrical noises in the radio telephone receiver were displayed by Pearce-Simpson.

RCA Radiomarine Shows Fishfinders

The compact, four-range Miniskop Fishfinder-Depth-sounder features a special shallow-water range of 0-16 feet as well as ranges approaching 500 feet. The unit is of the scope-presentation type and completely electronic. Its transducer is built into a complete fairing assembly which mounts to the ship's hull.

New electronic navigation, communications, and fish-finding gear for commercial vessels were introduced by Radio Corporation of America. On exhibit was a small craft "Lodar" system featuring a vertical sound range of 560 fathoms, a horizontal sweep of 130 degrees port to 130 degrees starboard, and a tilting range from zero horizontal to 90 degrees vertical. Soundings showing exact vertical and horizontal location of undersea objects may be indicated on recording paper, or as a scope presentation or by both means.

The RCA Radiomarine radar system, CR-107, provides dual-pulse operation for maximum clarity in short ranges of 1, 2, and 4 miles and long ranges of 12 and 32 miles. An additional safety factor is the system's ability to detect objects within 20 feet of the vessel. The radar's indicator mounting is designed to take up less than two square feet of deck footage.

Danforth Has 38 Anchors

Danforth Anchors featured its extensive line which includes 38 different anchors in four basic types. They range from the 2½-pound Standard boat anchor to the 10½-ton Standard ship anchor. Danforth's two latest anchors are the 130-S and 8-SP.

A major milestone in the history of Danforth Anchors was passed during 1957 when the half-millionth Danforth anchor produced went into use. The testing and research program, maintained by the Company for years, is continuing, and efforts are constantly directed toward increasing the efficiency of the anchors.

Danforth's 16-page booklet "Anchors and Anchoring", containing information about anchors and anchoring problems is now well into its second 100,000, and is still available on request.

Stewart-Warner Customarine Panels Shown

Instrument panels for gasoline or Diesel powered boats up to eighty feet were displayed by the Instrument Division of Stewart-Warner Corp. The exhibit featured "Customarine" panels. These panels have a method of construction whereby the boat owner can select frame, faceplate, tachometer, and gauges to be assembled into an individualized panel for his boat.

Also shown were mechanical and electrical tachometers, fuel level, oil pressure, water and oil temperature gauges, electric oil pressure and temperature gauges, ammeters, fuel level and vacuum gauges, Stewart-Warner electric fuel pumps and a safety panel designed to automatically shutoff unattended or remotely controlled engines in event of failure in the lubrication or cooling systems.

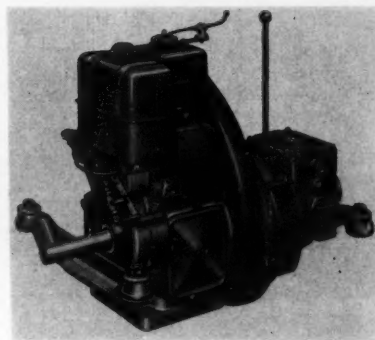
Lister Engines For Generator-Pump Units

Lister-Blackstone air-cooled Diesel engines were shown for the first time as generator and pump auxiliaries. LDM1 and LDM2 are single and twin cylinder, vertical 4 stroke air-cooled engines, developing 3½ hp. and 7 hp. respectively at 1800 rpm. Shell type main and big end bearings are oil fed under pressure from plunger pump.

The Freedom Range up to 54 BHP was represented by an FRM3GR, 3 cylinder propulsion unit, with gear box and reduction gear. The vertical 4 stroke water-cooled engine develops 9 hp. per cylinder at 1800 rpm.

Shown for the first time with an American gearbox, the Rootes-Lister TSM3GR diesel engine is a 3 cylinder, direct injection, horizontally opposed piston, water-cooled, two stroke diesel engine with blower assisted scavange. It develops 77 BHP at 1800 rpm and weighs 1330 pounds and stands 27.3 inches.

Lister LDM-1G air-cooled marine Diesel, rated 3½ hp. at 1800 rpm. This model is a one-cylinder engine.



Sen-Dure Shows Installed Heat Exchangers

Sen-Dure Products, Inc. entered the 1958 season with an expanded line of heat exchanger fresh water cooling systems and related equipment. The main exhibit showed popular engines that were exchanger equipped to emphasize the installation features applicable to a variety of engine types. An increased number of propulsion and generator sets at the Show featured Sen-Dure equipment.

Exide Shows New Heavy-Duty Battery

A new heavy-duty 8-volt battery, the Exide Sure-Start, announced by the Exide Industrial Division of The Electric Storage Battery Co., is available in 105, 150 and 175 ampere-hour capacities. It is designed for boats with 32-volt electrical systems.

Positive plates are constructed of an alloy compounded of lead, antimony and other components known as 6B5. Spun glass separators permit the electrolyte to penetrate freely while providing plate insulation.

Exide Sure Starts are assembled in molded rubber containers with bonded covers of the same material. Exide now offers 6 and 12-volt Exide Ultra Start, Sure-Start, Hycap and Startex batteries; 8-volt Sure-Start and Ultra Start LXM batteries; and many sizes of Exide Ironclad batteries.

Michigan Wheel Shows Propeller Line

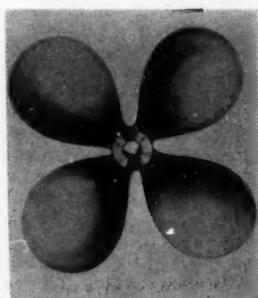
Michigan Wheel Co. displayed its three, four and five blade commercial boat propellers, which are available in various sizes through 72 inch diameters.

The Company also showed a new line of heavy duty propellers for use with the 50 hp. V-type Evinrude and Johnson outboard motors.

Michigan Wheel announced that it will soon introduce cupped propellers for fast inboard boats. These speed wheels have blades with rolled up trailing edges, utilizing a design principle first employed on Michigan outboard wheels. The cupping feature is said to increase speed greatly.



New 8-volt Exide Sure-Start.



Michigan Workhorse propeller.



Raytheon transistor direction finder.

Palmer "Spacemaker" Introduced

The new Palmer Spacemaker engines requiring 33% less head-room were shown for the first time. The engines have a profile height of 12¾" from the center of the crankshaft to the top of the engine. To accomplish the saving of space Palmer has inclined two of its standard 6-cylinder overhead valve engines to 18 degrees from the horizontal. The port engine block assembly has been completely reversed to offer twin engines in true pairs and opposite rotation.

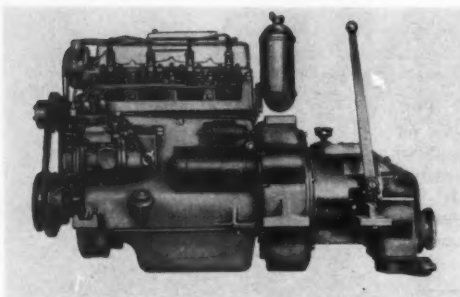
Palmer will produce the "Spacemaker" engine in 120 and 135 hp. types. The three conventional 6-cylinder engines have a new cylinder head design. Models 240, 264 and 308 were shown, with a new cylinderhead and combustion chamber design to increase the power of the engines. The overhead valves on the engines are mounted at an angle. A new 12 volt combination starter-generator was shown on the "Baby Husky". The unit is small and compact driving through two V-belts around the flat of the flywheel. It starts the engine at the touch of a button and then becomes a 25 amp generator.

Raytheon Transisterized Direction Finder

Raytheon Manufacturing Co. announced a transisterized portable radio direction finder, three new radio telephones and a new shore power converter series. Features of the new direction finder include complete portability with battery life of two to three seasons, and high power output of one watt. Built in extras include headphone jacks, null meter, battery checker, and printed circuit. The set is protected against salt atmosphere and has a high visibility geared tuning dial.

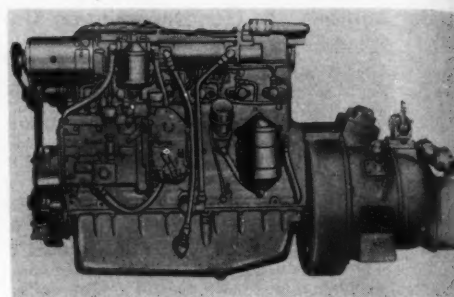
The radio telephone models are rated 12, 34, and 65 watts output power. Featured is the Ray 12, a packaged radio telephone system designed for small boats. The unit is factory pre-tuned and installation requires only connection to a battery and the supplied antenna. The Ray 12 has 5 channels and broadcast band reception. Other models are rated from 10 to 150 watts output.

The re-designed shore power converter features two output circuits—one to operate boat lights and the other to fully charge the batteries. Raytheon converters are available in 21 models.



Left: D45 Red Wing Diesel redesigned to reduce the weight.

Right: Allis-Chalmers Model 6DAMR-273 lightweight, 6-cylinder marine Diesel, rated 85 shaft horsepower at 2800 rpm.



New Manifold for Red Wing Engines

Red Wing Marine Corp. has re-designed several of their engines for 1958 and has developed a new manifold for all engines. The manifold, now standard equipment, is guaranteed for 7 years against corrosion from salt or fresh water. It is equipped with a $\frac{1}{4}$ " cast iron water jacket and specially designed intake ports to cut down on fuel consumption.

Red Wing has also retooled the Meteor "65" into a special unit designed as a companion for the Muncie Flexidrive. Used with the Flexidrive it is designed to convert any outboard hull into an inboard at about $\frac{1}{2}$ the cost. The Diesel D45 has been redesigned to reduce the weight and increase economy of operation.

Red Wing Marine Corporation's complete line now offers gasoline engines rated from 20 to 160 hp. and diesel engines rated from 45 to 140 hp.

Harbormaster Units On Display

Two "Harbormaster" units were shown by Murray & Tregurtha Inc. The larger, Model O-6C, a 230 hp. Caterpillar Diesel with an engine speed of 1600 rpm., has a reduction of 5.84:1 and swings a 60 x 46" wheel. The unit weighs 18,120 pounds. The smaller model, 5F-4 is a 60 hp. Diesel powered with a General Motors 4-71 engine. It swings a 36 x 28" wheel at an engine speed of 1800 rpm. and a reduction of 4:1.

Aeroquip Shows Segmented Socket

Features of the Aeroquip Segmented Socket include assembly or detachment of piping in restricted shipboard spaces, securing flanges with gasket seals before hooking up the segmented socket and piping, and the elimination of the need for stripping hose cover before assembly. Only simple hand tools are needed for assembly of the socket. The Aeroquip Segmented Socket is made of bronze and copper construction for applications requiring non-corrosion and non-magnetic materials.

New Jabsco Series-DC Voltage Pumps

Jabsco Pump Company has released a new line of light weight, self priming, direct current motor pump units. The pump consists of bronze body construction, neoprene compound impeller, lip type shaft seal and ports to accommodate $\frac{3}{4}$ " garden hose. Pump capacity is 5 gpm against a 10 foot head, suitable for use up to 15 psi with dry suction lift of 10 feet. It is 6" long, 4" wide, 3 $\frac{1}{2}$ " high and weighs 5 $\frac{1}{2}$ pounds. There are five models in the series, for 6 to 110 volt operation.

Another new Jabsco pump, Model 5240, has a rotary type shaft seal, replaceable wear plate and ports to accommodate either $\frac{3}{4}$ " garden hose or $\frac{1}{2}$ " standard pipe fittings. Capacity is 13.7 GPM against a 10 foot head. Suitable for use up to 20 PSI it has a dry suction lift of 15 feet. It measures 11 $\frac{1}{2}$ " long, 14 $\frac{1}{2}$ " wide, 10" high and weighs 23 pounds.

Allis-Chalmers Shows Light Weight Diesel

Allis-Chalmers Manufacturing Co. displayed its six cylinder Model 6DAMR-273 light weight marine diesel. The 85 shaft hp. engine weighs 1,000 pounds complete with marine gear and has a 3 $\frac{3}{4}$ " bore, 4 $\frac{1}{8}$ " stroke and a 273 cubic inch piston displacement.

The manufacturer stresses the engine's smoothness of operation and minimum of noise and vibration. It is designed for powering all types of fishing craft in the 22 to 60 foot length range.

Pettit Has Revolving Color Card

To aid in the proper selection the Pettit Paint Company has mounted their regular color card on a revolving drum. By spinning the drum, thirty or more Pettit hull and deck colors can be seen at a glance. Boot top colors as well as nine antifouling and bottom paints are shown on the drum, as are engine enamels.

Newest addition to the Pettit line is the Pettit Spray-can, a pressurized container of premixed paint matching various outboard engine manufacturers' paint specifications.

Four New Lathrop Gasoline Engines

Four new gasoline engines have been announced by the Lathrop Division, Burmeister & Wain Corporation, including the B&W Lathrop 30, a 250 pound, 4-cylinder engine developing 30 hp. at 4000 rpm.

The B&W Lathrop 60 is an engine of 133 cubic inches developing 60 hp. at 3200 rpm. It weighs 440 pounds. The B&W Lathrop 130, newest of the 6-cylinder gasoline engines, has a 320 cubic inch displacement and develops 130 hp. at 3400 rpm. Developing 155 hp. at 3400 rpm. is the B&W Lathrop 155.

Standard equipment on the engines is the rubber shock mounting, extra sheave pulley from the flywheel, brass water tubing and cadmium-plated valve springs. The hydraulic reverse gear and power take off are optional on all 6-cylinder engines. Opposite rotation engines are available.

Kohler Shows Marine Electric Plants

Kohler Co. showed its Model 10R063, 115/230 volt AC, marine Diesel plant for remote starting. It is equipped with a heat exchanger, sea water pump, and water-cooled exhaust manifold. Also on display were the 5A23, 5 kw., 115 volt AC, and two smaller models—the 2.5R27, 2500 watts, 115 volt AC; and the 1A27, 1000 watts, 115 volt AC. All are for marine application.

Kohler plants provide power for quick freezers, general lighting, running lights, search lights, depth sounders, water and fire pumps, winches, RDF, radio telephone, and galley equipment. The Kohler line offers sizes from 500 watts to 50 kw., gasoline and 10 kw. to 50 kw. Diesel.

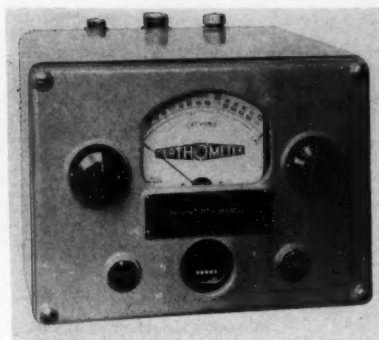
Bludworth Shows Portable Direction Finder

Complete lines of direction finders, radio telephones, and depthmeters were displayed by Bludworth Marine.

The Port Pilot is a portable, self-contained direction finder that can be placed anywhere in the boat. Three hand direction finders by Bludworth Marine offer coverage and direction of marine beacon, standard broadcast, marine radio telephones, time signals and weather. The Mari-Guide is 26½" high and weighs 34 pounds. The Marine Pilot Model DF-1030A with electric tuning features its remote loop. The Marine Arrow is specially designed for moderate sized commercial vessels.

Weighing less than 40 pounds and portable is the new ES-130 Recording Depthometer. It has four scale ranges, 0/65 feet, 60/125 feet, 120/185 feet and 180 to 245 feet.

Bludworth's Indicating Depthometer ES-121 B, designed for small boats. The instrument automatically measures and indicates depths from 2 to 200 feet.



New V-Design for Johnson Outboard

Johnson Motors unveiled its new 50 hp., four cylinder V-design Super Sea-Horse 50. By applying the V-principle to the two cycle motor, Johnson has balanced one bank of pistons against the other to reduce vibration and noise and to achieve compactness. It also makes possible the use of a shorter, more efficient crankshaft.

Airtight sealing of the cover to the waterline and a motor mounting of vibration-muffling sponge also helps reduce excess noise. The new motor has a twin barrel down-draft carburetor with one lever to handle high speed fuel-air adjustment, plus a new thermostat-controlled recirculation water cooling system and a built in fuel pump. Three tilt features include a spring loaded tilt to help raise the lower unit from the water, a tilt-lock for use when trailing and a tilt-lock for holding the motor out of the water. The Super Sea-Horse 50 is available with electric or manual starting.

In addition, Johnson introduced a new Super Sea-Horse 35, an electric starting motor with most of the 50's features. Other models in the line include restyled electric 18, manual 18, and 10, 7½, 5½, and 3 hp. motors. The 10 hp. model weighs 7 pounds lighter than last year.

Cating Features Nylon Rope

Cating Rope Works, Inc. featured its line of K-ting Nylon ropes, and presented information on the many advantages they offer to boat owners.

According to Cating, the principal advantage of nylon rope is the fact that it has a high degree of elasticity, and will absorb sudden strains. This characteristic has made nylon particularly suitable for towing jobs, or for

use as anchor or mooring line on boats of all types.

The firm states that Nylon rope has double the strength of manila, thereby permitting smaller-than-usual sizes to be used. This, in turn, cuts down the weight of the rope needed for a particular job, and makes for easier handling. A further advantage of Nylon rope is the fact that it will not rot or mildew, and can even be stowed while wet.

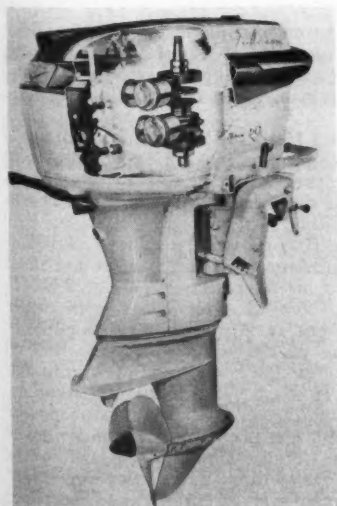
A new rope dispensing machine, the Robot Ropeseller, designed and patented by Cating, was on display. The machine automatically and accurately measures the amount and type of K-ting rope desired and cuts it immediately. It will handle any of the company's K-ting nylon, Dacron, polyethylene, linen, and manila ropes. Cating is also offering a pocket size, four-page rope selector chart to help boat owners choose the right synthetic ropes for their needs.

Evinrude Has Twelve Models

Two 50 hp. V motors—the Starflite and the Four-Fifty—head a line of 12 outboards introduced by Evinrude for 1958. The principle of quiet adapted to the Vs has been extended to the Lark 35 hp. model.

Each motor is muted in a "soundproof" chamber. Outside parts above the gearcase are mounted to the pivot bearing. The powerhead is on rubber mounts. The exhaust tube is sealed in a nacelle to prevent the escape of noise. Motor covers are secured at all joints with rubber seals to act as air intake silencers. Motor covers are removable in one piece and have only one latch.

In both the Starflite and the Four-Fifty the V cylinder block has been upended to produce a low silhouette. Motor housings cover the normally exposed choke and

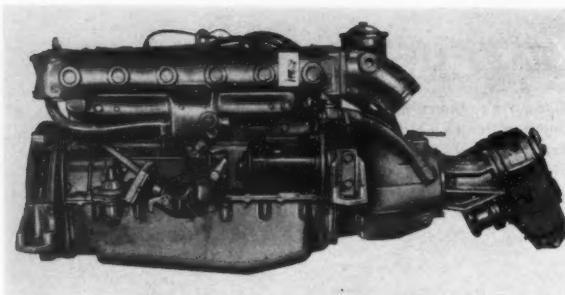


Above: K-ting Kwik-Kut nylon rope display.

Left: Cutaway of Johnson 50 hp. V-engine showing position of pistons.

Right: Evinrude's 50 hp. V-engine Starflite.





Norseman Knight rated 155 hp. at 3200 rpm.

control knobs. The Starflite is an electric-starting motor and the Four-Fifty is the rope-start model.

In addition to the Starflite, Four-Fifty and Lark, Evinrude brings back its two 35 hp. Big Twins with refinements in both electric and rope-start models. The remainder of the Evinrude line ranges from 3 to 18 hp. The models are the 3 hp. Lightwin, 3 hp. Ducktwin, 5.5 hp. Fisherman, 7.5 hp. Fleetwin, 10 hp. Sportwin, and the 18 hp. Fastwin available in both standard and electric-start.

Bowers Battery Using Precision Methods

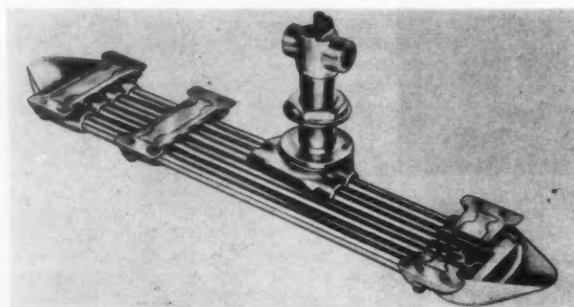
Bowers Battery and Spark Plug Co. had a complete exhibit of its products. The concern announced it has contracted with Industrial Nucleonics Corporation for the installation of their AccuRay Automatic System for use on plate pasting machines. AccuRay, now used in industries where minute weight control is essential, will give a visual and chart record every 1/5 of a second and automatically adjust the pasting machines to assure minute accuracy of each plate.

New Walter Keel Cooler Streamlined

The Walter Clean-Flo Keel Coolers have been streamlined for easier flow of water over fittings and tubing. Manufactured by Walter Machine Co. Inc., they are available in sizes for all types of gasoline and Diesel engines of 5 to 500 horsepower. The coolers are designed for both metal and wooden hulls.

The Walter Keel Cooler is flush-mounted outside the hull towards the stern. Only one opening is required for the installation since the through hull fitting is composed of two compartments. The cooling fresh water passes through one compartment from the engine to the cooling tubes outside and returns to the engine by way of the other.

The system has a slip-joint assembly, with all cooler fittings equipped with sockets containing neoprene rings. To guard against electrolysis, each mounting plate, to which the cooler is fastened, has a suitable pocket containing an easily replaceable zinc plate.



Streamlined Walter Clean-Flo Keel Cooler.

Norseman Marine Displays New V-Models

Two V-Drive engines have been added to the Norseman Marine line. The 155 hp. Knight and 105 hp. Bullet are now available with unitized V-Drive. Both models are available in direct drive or in 1.5:1, 2:1 or 3:1 reduction drives, with hydraulic reversing gears.

Leading the straight drive models is the Norseman Knight with 12 volt ignition and choice of direct or reduction drives. Choice of reversing gears includes manual, hydraulic, or Norseman Stay-Nu-Tral. Next is the Tarpon rated at 130 hp. at 3000 rpm. Other models include the 110 hp. Marlin, the 110 Bullet, the 105 hp. Bluefin the 95 hp. Arrow and the Colt at 60 hp. Newest addition to the line is the lightweight Elf. A 65 cubic inch displacement engine, it develops 23 hp. at 3000 rpm.

New Sperry Radars Demonstrated

Sperry Gyroscope Company gave its first public demonstration of the new "True Tracking" and "Off Center" radars. The True Tracking radar provides immediate differentiation between moving vessels and stationary objects. Moving objects are accented on the radar scope by tiny comet-like tails, which also indicate the approaching ships speed and course.

Sperry's Off Center radar is a marine radar that allows navigators to position their ships electronically anywhere on the radar tube, allowing more pertinent radar information by greater seaward scanning area.

Also shown was the "Dual Gyropilot" consisting of an electrical steering stand which is the main electrical control for the steering gear; the Non-Follow-Up Controller which is mounted on the Dual Gyropilot steering stand, to provide an auxiliary means of electrical control; and two hydraulic power units to control the steering engine and operate for long periods without attention.

Gloucester Sea Jacket Paints Displayed

The new line of Gloucester Sea Jacket Marine Finishes is the most complete in Tarr & Wonson, Ltd. 95 year history. New colors, types, specialties, intermix color suggestions are stressed in the latest color card, which features 77 color swatches and lists more. All the Tarr & Wonson favorites are still available along with the line of Gloucester Sea Jacket paints.

Special paint display racks are now available for dealers. The racks feature plastic-enclosed color displays for presentation of the paint colors in the racks. It takes up less than three square feet of floor space and carries a representative line.

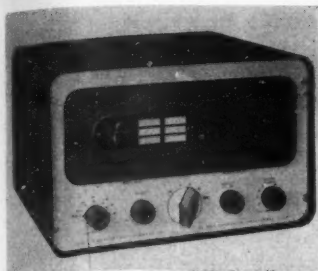
Hudson American Displays Radio Telephones

A full line of radio marine telephones, designed to meet the new and more stringent F.C.C. regulations governing marine communications equipment was exhibited by the Hudson American, a division of Radio Engineering Laboratories.

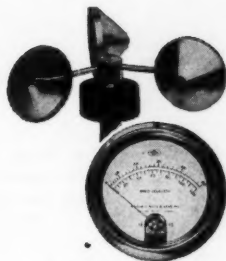
Ranging in power from 15 to 135 watts the ship-to-ship and ship-to-shore telephones enable quick contact with the Coast Guard and other ships in nearby waters. In addition the instruments can receive regular radio broadcasts and weather bulletins.

Newest models in the Hudson American line, the Nautilus I and the Mariner Premiere, offer eight pretuned frequencies. They have an operating range of 2,000 to 3,500 kilocycles and are available for boats with either 12 or 32 volt direct current or 110 volt alternate current. Both have power ratings of 135 watts.

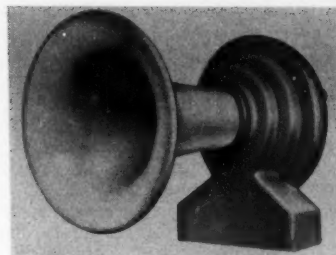
The Privateer VI model made entirely of aluminum, weighs only 25 pounds. It offers 4 channels plus standard broadcast band and is equipped with a vibrator power supply. The Corsair IV offers six channels and a power rating of 40 watts. The Corsair Champion is similar to Corsair IV but has a heavy-duty panel, developed for boats which have to keep sets in an exposed position.



Apelco AE-32 Power Package.



White Anemometer.



Buell gas powered, nylon horn.

Apelco Introduces Power Package Telephone

Apelco offered a counterpart to the radio telephone "package" concept introduced last year; the Model AE-32 "power package". This consists of the AE-32, 42-watt radio telephone with 5 crystal controlled channels for transmitter and receiver plus standard broadcast band. Also included are 3 sets of quartz crystals (3-transmit, 3-receive) and a center-loaded vertical antenna.

Another feature was the Remote Control System for Apelco marine radio telephones. The system permits equipment to be mounted wherever convenient and be fully controlled from a remote position. Provided are control of channel selection, volume, stand-by, and press-to-talk transmit and receive functions.

Two versions of the DFR-12 Direction Finder were shown. The equipment provides a tunable frequency range from 150 to 5000 kcs which include Beacon, Broadcast and Marine. Eight crystal controlled channels within 2000 to 5000 kc provide rapid frequency change without tuning.

White Shows Wind-Speed Indicator

The new White Wind-Speed Indicator was displayed by Wilfred O. White & Sons. The anemometer shows two scales, 0 to 50 mph. and 0 to 120 mph., for continuous readings of all wind velocities. Scales are compensated to read in mph. but may be ordered to read in knots.

The wind blown revolving cups of the White Wind-Speed Indicator create their own operating current and can be used where there is no electricity. There are no brushes, contacts or slip rings and no lubrication is required. A 5 foot aluminum mast and 60 foot flexible cable are supplied.

Also shown was the White Model D-51 Echo Depth Sounder which can be installed on most boats while they are in the water. It gives 30 soundings a second and reports depths from 2 to 80 feet. The White Surecho depth sounder is available with 40, 80, or 120 fathom dial and for 6, 12 or 32 volts DC or 115 Volts AC.

The white line of compasses and binnacles was complete and featured the Corsair Spherical and the 5" Constellation Express with its internal gimbal ring construction and built in corrector system, movable glare visor, and shock mounts.

Detroit Diesel Displays New Models

General Motors Detroit Diesel Division's display emphasized the new marine models developed within the last year. The work boat model, a six-cylinder, series 71 unit, is one of the new E models which attains 15 per cent more horsepower without increasing the fuel consumption. In these models the air intake ports in the cylinder liners have been enlarged and the number of exhaust valves per cylinder has been increased from two to four. The new engine is rated at 170 shp.

Other models on display include the 87-shaft hp. unit for work boats and vertical and inclined models for almost any single engine installation up to 364 shp. Several of the vertical and inclined models were displayed as matched pairs. Activated cut away models demonstrated the two-cycle operation.

Buell Displays New Horns

Horns operated by Freon gas power are the newest addition to the Buell line of air horns. The "Buell-ette" is the smallest of the Buells having a horn bell diameter of 4 1/2" and 4" long. It comes in a snow white finish and is made of nylon. The "Buell-ette" comes with a can of Freon gas, operative valve, control knob, and fittings for installation.

The new "Lifeguard" line consists of 4 sizes with horn bells 10", 12", 15", and 18" long. "Lifeguard" is also made of nylon but comes in three colors—silver gray, sea green, and snow white. "Lifeguard" can be operated with Freon gas, with a hand pump or by a Buell air compressor unit.

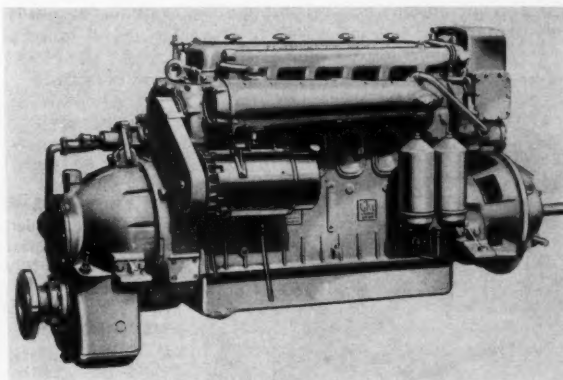
The luxury lines of Buell and Strombos air horns remain unchanged with the exception that Strombos horns can now be had with nylon bells.

New Water-Cooled Onan Generating Plants

D. W. Onan & Sons Inc. has added a new series of water-cooled, gasoline-driven marine electric generating plants to the Onan line. The new series (MAJ) offers four models: 1,000 watt, 115 volt, 60 cycle, A. C. unit with remote starting; similar unit with automatic starting; 500 watt, 12-volt, D. C. battery charger with remote starting; and 1500-watt, 32-volt D. C. battery charger with remote starting.

All models in the new series are self-contained units, designed for safe, below-deck service. They are powered by one-cylinder, 4-cycle, heavy-duty Onan gasoline engines. The plants feature rotating, Stellite-faced exhaust valve, solid Stellite exhaust insert, radio shielded ignition, rubber-impeller water pump, high water temperature safety cutoff, rubber cushion vibration dampeners, and optional generator extension shaft for power takeoff.

The control box contains a charge rate ammeter, charge rate control, start-stop controls and battery terminals. All controls are moisture and fungus treated. Automatic starting models provide full automatic operation of the generating set by merely switching an electrical load on or off.



Detroit Diesel's 6-cylinder workboat engine.

Kaar Telephones Feature New Design

The marine radio telephones by Kaar Engineering Corp. revealed a departure from the conventional, square-cut marine radio design. The new Kaar radio telephones are designed for bulkhead mounting, but can also be set on a horizontal surface when used with a tubular mounting which attaches to the back of the unit. All models in the new line have removable hoods for accessibility.

The Kaar 37 is superseded by the new 237B which includes a speech clipper and filter, pi output network, automatic noise limiter and a dynamic microphone. The medium powered Kaar 242-A in the 100 watt class, features the speech filter and noise limiter. It is a 6-channel unit available with power supplies for operation from 12 or 32 volts DC or 117 volts AC. The 222A in the high power field, is a 9 channel radio telephone rated at 150 watts input capable of delivering 85 to 100 watts RF output. It is available with power supplies for operating from 12, 32 or 110 volts DC or 117 volts AC.

In addition Kaar offers the new Kaar 248, rated at 25 watts output, which meets the FCC specifications for passenger carrying vessels. It is similar in appearance to the 237B but utilizes a separate power supply.

Universal Features New V-8 Model

The addition of a new V-8 broadens Universal Motor Company's model range from 12 to 225 hp. The V-8 is a 326.7 cubic inch displacement engine developing 225 hp. at 4400 rpm. It is offered in direct and reduction drive models. All models are equipped with self adjusting hydraulic clutch and reversing gear. Reduction gears offered are 1½:1, 2:1, 2½:1, and 3:1 ratios.

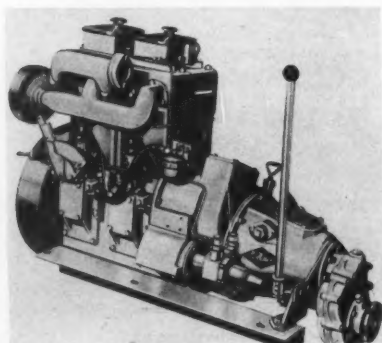
Universal's presentation of engines in 2s, 4s, and 6s emphasized compactness. Four series of sixes are offered, lead by the Super Six "Commadore" and "Steveadore" models. The "Commadore" with 145 hp. and the "Steveadore" with 130 hp. are supplied in direct as well as reduction drive with a wide choice of gears. The "Master Six" and the "Explorer Six" rated at 100 hp. have chrome-nickel alloy iron castings and a built in hand sump pump for oil changes.

Universal's line of power and light plants is produced in 28 series totaling 101 models. Eight models, ranging from 300 watts to 6000 watts, are available for marine service. The AC and DC models are engineered for installation anywhere below deck. Diesel marine models feature fresh water circulation systems and are available in capacities ranging from 10 kw. to 35 kw.

Marine Products Exhibits Pumps

Marine Products Company displayed a large selection of bilge pumping equipment. Cutaway models and complete pumps were displayed in sizes ranging from ¾" to 3", and capacities as high as 300 gallons per minute.

The Company offers free service for calculating bilge pump requirements and recommending systems for safety and protection.



Petter model AV2RMR 12 hp., twin cylinder, water-cooled Diesel with 2:1 reduction gear.

Kaar 222-A 150-watt, 9-channel marine radio telephone featuring bulkhead mounting.



Federal Paint Has Luminescent Additive

"Aluminescent" paint additive, Federal "Secret Agent", sparked Federal Paint Company's display. Federal Agent, an aluminum based formula pigmented with Alcoa Aluminum is used to give colors a metallic sparkle.

Blues take on a silver glint. The effect of light and color on curved surfaces is heightened. Since it is highly reflective and can be seen from a greater distance, the "aluminescence" adds an extra measure of safety for after dark operation. The metallic qualities of the additive should also strengthen the paint job, and the insulative qualities may keep the boat cooler under the hot sun.

Monel Products Displayed

Monel tanks, shafts, accessories, fastenings and nickel-aluminum bronze propellers were featured in the International Nickel Company's display. Monel shafts along with Ni-Bral propellers were exhibited to emphasize the higher horsepower being used in the marine industry and the need for stronger shafts to handle the increased torque.

Accessory items shown included nickel-copper alloy stoves, seawater strainers, mufflers, an exhaust sweep, a hydraulic steering unit, water heaters, water pumps, and engine heat exchangers.

Munston Introduces New Radio Phone

A new radio telephone, the MRT-65, featuring a 65-watt power input on 5 crystal controlled channels, has been announced by Munston Manufacturing and Service, Inc. The unit has a range of frequency 2,000 kc to 4,500 kc for complete coverage including the broadcast band.

Transmitter and receiver are mounted in an all-aluminum cabinet 15½" wide, 11¼" deep and 8¾" high. Power for the transceiver is supplied by a separate dynamotor power supply and may be operated from a 12 or 32 volt DC power supply. A noise limiter reduces interference from static and ignition for quiet operation under weak signal reception and during standby periods.

Petter Shows Small Diesels

The Petter Engine Division of Brush Abco, Inc., featured their air cooled Diesel marine engines. The engines, produced in single and two cylinder sizes, have an output up to 7½ continuous hp. per cylinder. On display were an AVA1RM single cylinder air cooled Diesel fitted with reverse gear and rated 6 bhp. at 1800 rpm, and an AVA2RMR, 12 bhp. twin cylinder air cooled Diesel fitted with reverse and 2:1 reduction gear.

Also shown were the AV2RMR twin cylinder, 12 bhp., 1800 rpm. water cooled Diesel, with 2:1 reduction gear, a 3000 watt, flange mounted generator set, powered by an AV1 engine and using a Winpower 32-volt DC battery charging generator.

Virginia Oyster Industry Reported to be Expanding

According to a recent report of the Virginia Commission of Fisheries, Virginia's oyster industry is gradually increasing its production from private grounds. The James River beds continue to produce about 2,000,000 bushels of seed oysters yearly.

Virginia now has more than 128,000 acres under lease as compared to 26,800 acres in 1900. More oyster ground is under cultivation in Virginia than in any other state.

One of the wonders of the seafood industry is the continued high production of the James River seed beds. The success of spawning, setting and survival of spat varies, but in the history of the fishery, there never has been a failure.

The most convenient source of seed outside the James River is an extensive area along the seaside of the Eastern Shore where setting is prolific.

Another source of seed for Chesapeake Bay is the south Atlantic coast, where in many areas underexploited heavy sets of oysters occur regularly. One such source is the coastal waters of South Carolina. Growth is rapid and quite satisfactory at first, but lags behind the growth of local oysters after about two years. Survival is much better in summer, for these oysters are highly resistant to infection.

In the Fall of 1954 Dr. J. D. Andrews and Dexter Haven, biologists at the Fisheries Laboratory predicted that oyster-planting would improve in the Rappahannock River in 1956 and that there should be an unusually good crop in 1957.

Chief Oyster Inspector J. William Ryland and Deputy inspector H. C. Doggett reported late last month that between 400 and 700 tongers were working the public rocks in the Rappahannock this season. This is a good indication of the abundance of market oysters.

In the Morratice area which had a nearly complete kill of market oysters in 1955, the set of oysters has recovered much faster than anyone expected and is now providing some tonging because of the successful 1954 set.

An unusual amount of shell on which young oysters attach themselves has been removed this season and this may require additional shell planting by the State to insure that there is enough shell on the grounds to catch future crops.

More Shuckers Needed

Robert Billups of the Billups Oyster Co., Williams Wharf reported recently that the greatest difficulty in his business is getting efficient shuckers and that he has only 75 percent of what he really needs.

Mr. Billups, one of the major planters and shippers of oysters in the State said that there has been no unusual trouble in the past year from pests or diseases which destroy oysters some years.

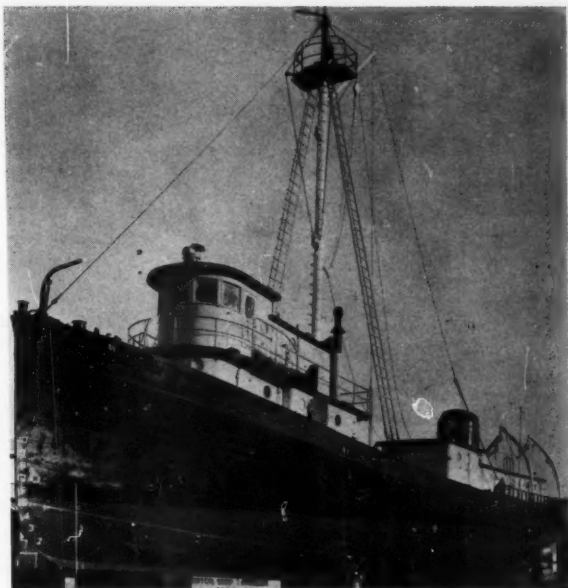
Hampton Roads Area Production

The production of fishery products in the Hampton Roads area in November fell slightly below that of November of 1956, but the total for the principal Virginia areas of Hampton Roads, Lower Northern Neck and the Eastern Shore was an increase this year, or 3,384,100 pounds as compared to 3,231,900 in 1956.

Porgy was the most numerous finfish landed with 610,400 pounds. Croaker ran second with 217,100 pounds and fluke was third with 77,800 pounds.

Crabmeat in the Hampton Roads area in November 1957 amounted to 126,500 pounds, as compared to 171,900 pounds in November 1956.

Haul seines, gill nets and pound fishermen continued operations in the Hampton Roads area well into December. On December 16 they brought in 2,100 pounds of finfish. As cold weather advanced the trawlers began taking over and on December 2 six trawlers landed 175,000



135' steel menhaden boat "Absecon", owned by Fish Products Co., Lewes, Delaware. She uses Texaco lubricating oil, and has 800 hp. Enterprise Diesel, 68 x 44 Columbian propeller, Exide batteries, Columbian rope, Danforth anchor, RCA Radiomarine radiotelephone and radar, Rochester wire rope and Linen Thread Co. Gold Medal nets.

pounds of finfish. They were the *Admiral*, *Cavalier*, *Lawson*, *Lesbie H.*, *Pauline Boland* and *Sea Rambler*.

Add Oyster Shucking Plant

Chesapeake Seafoods at New Point, Walter Garret and son owners, have recently added an oyster shucking establishment to their business. Mr. Garrett, Sr. reported recently that things are running pretty smoothly, that his supply is ample, the demand is good, and that he is able to keep enough shuckers.

Chesapeake Seafoods is operating two trawlers the *Pauline Boland* and the *Nancy Gwynn*. These boats and others in the Bay have had very good catches recently, principally flounders and porgy. This good luck early in the season make operators hopeful that it will be an exceptionally good year.

Supreme Court to Hear States' Complaints

On December 16 Virginia was granted permission to sue Maryland for the rights of Virginians to fish in the Potomac River without a Maryland fishing license. The Maryland General Assembly in 1957 made void a compact between the two states made in 1783 which gave Virginia equal fishing rights with Maryland in the Maryland-owned Potomac River. Maryland now requires Virginians to buy Maryland fishing licenses and they also must buy licenses from Virginia.

Maryland insists that Virginia is not attempting to sue as a sovereign state, but on behalf of several hundred oystermen and fishermen. The Supreme Court voted unanimously to hear the case and Maryland has been given 60 days to file an answer to Virginia's complaint.

Crab Dredges Doing Well

In Chesapeake Bay, the crab dredges took over the first of December and by the middle of the month Capt. Randolph Hudgins of Onemo who operates the 50-ft. dredge boat *Loris*, reported that the crabbers were doing very well. Prices the first of the season started at five cents and by the middle of the month had advanced to seven. On December 19 the *Loris* landed 21 barrels of crabs.

A recent Virginia law limits the catch of crabs to 30



CAPT. LUDWIG FIELDER'S 52' DRAGGER "NORA" at Greenport, N. Y. Finished with International paint, she has an 85 hp. Lathrop Diesel, 2:1 reduction gear and uses Ederer nets.

barrels, per dredge boat, and if any dredge-boat operator is caught with more than 30 barrels, he is fined \$250.

Capt. Chase Morgan of Onemo who operates the *Mary E.* crab runner from New Point to Hampton daily with a 60 barrel freight capacity, thinks the law is a good one in that the limit is a deterrent to a glut in crabs.

The production of crabs in the Hampton Roads area last month averaged from 2,600 to 12,700 pounds a day; in the Lower Northern Neck area from 200 to 1,200 pounds a day, and on the Eastern Shore from 200 to 800 pounds a day.

In the Hampton Roads area, oysters throughout the last third of November and throughout December seemed to be holding up to their usual production figures. From 5,000 to 7,500 gallons were shucked daily. The lower Northern Neck produced more than half that daily output amounting to 2,500 to 4,600, while the Eastern Shore shucked from 2,000 to 2,900 gallons daily.

Long Island Shellfishermen Oppose Power Dredge Ban

Commercial shellfishermen last month attacked a proposed Islip ordinance that would prohibit the use of power dredges in digging clams and oysters in town waters. Over 130 people attended a public hearing on the ordinance last month, with several fishermen stating that the ordinance would put them out of business in the Islip area.

Those approving the new law reported that power dredging would eventually ruin the shellfish industry entirely. Nick Griek of West Sayville told the meeting that he had studied the problem, and said that the claims opposing power dredging were not substantiated and that a study showed dredged bottoms to still have a good supply of clams. He added that the jet dredge is efficient and to prohibit its use would be an injustice.

Later last month it was understood that no decision was likely to be reached for some time by the Islip Town Board regarding the clam dredging ban. The Board has heard from both sides since the hearing and will continue to do so until the problem has been thoroughly explored. Meanwhile, Adrian Hoek an independent bayman has reorganized the defunct clammers' organization with the purpose of supporting the proposed ordinance. Hoek maintains that Great South Bay has always been a source of income in times of unemployment, but that it will not be much longer because clams will be in short supply. The proposed dredge ban would include 1,900 acres of under-

water land leased from Islip Town by 35 individuals or concerns.

September Landings Show Increase

September commercial landings of fish and shellfish at ports in the New York Marine District, amounted to 2.6 million pounds valued at \$624,000 to the fishermen. This was an increase of 371,000 pounds in quantity and \$20,000 in value, compared with the same month last year.

Leading finfish species were scup or porgy, fluke, butterfish and bluefish. The increase in finfish was due to heavier landings by the inshore draggers. Surf clams and sea scallops were down while oysters and bay scallops were up.

Total landings during the first nine months of 1957 amounted to 33.5 million pounds valued at \$5.3 million. This was 9 percent greater in volume but 9 percent less in value compared with the same period of last year.

Fish Packing Plant Accepted

The Islip Town Board last month approved taking over a building owned by Reich Brothers, motor freight company, with the possibility of using it as a place to pack oysters and to open scallops. It was felt that should the town take over this proposal, it would be appreciated by shell fishermen and baymen in the area.

Maryland Crab Production Shows Great Improvement

Maryland's production of hard crabs increased by nearly four million pounds over 1956 in the season which began April 1 and ended November 31. Soft crab production was up by more than one-third over the previous year.

John P. Tawes, chairman of the Tidewater Fisheries Commission reported that Maryland packers processed 41,079,000 pounds of hard crabs in the 1957 season and 1,448,000 dozen soft crabs. Of the hard crabs, 28,375,000 pounds came from Maryland waters and 12,704,000 pounds were imported. All but 291,000 dozen of the soft crabs were Maryland-produced.

Quality of Oysters Best in Years

Comparing this year's oyster season with that of last year's, it has been better for all concerned.

The quality and the quantity of shell stock oysters in Holland Straits is reported to be much better than last year. Pocomoke Sound is also said to have had the best season for several years. The catch has been better and the quality is said to be the best in years.

The weather was much better than that of last year and the watermen have been able to put in more days during each week.

Crisfield's shucked oyster production, however, dropped off some during the Fall of 1957 as compared with the Fall of 1955.

Some Somerset County tongers, who in past years have worked in the Nanticoke River areas on Dorchester and Wicomico Counties, this year had to confine their work to other sections, as those areas were closed this year to non-resident watermen.

The crab-meat industry is said to have been about as good if not better than this time last year.

Broad Creek Opened to Oystermen

The reopening of Broad Creek to oystering took place on December 9 after having been closed for three years. Tests made in the spring and since September 1 showed that the creek is no longer being polluted because of an intensive "cleanup" campaign conducted by the Talbot County Health Department among residents.



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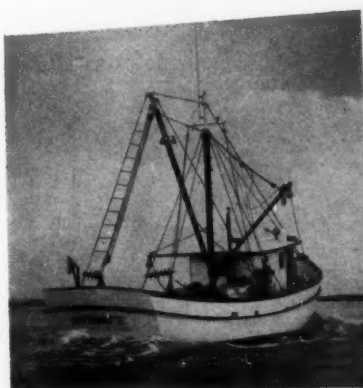
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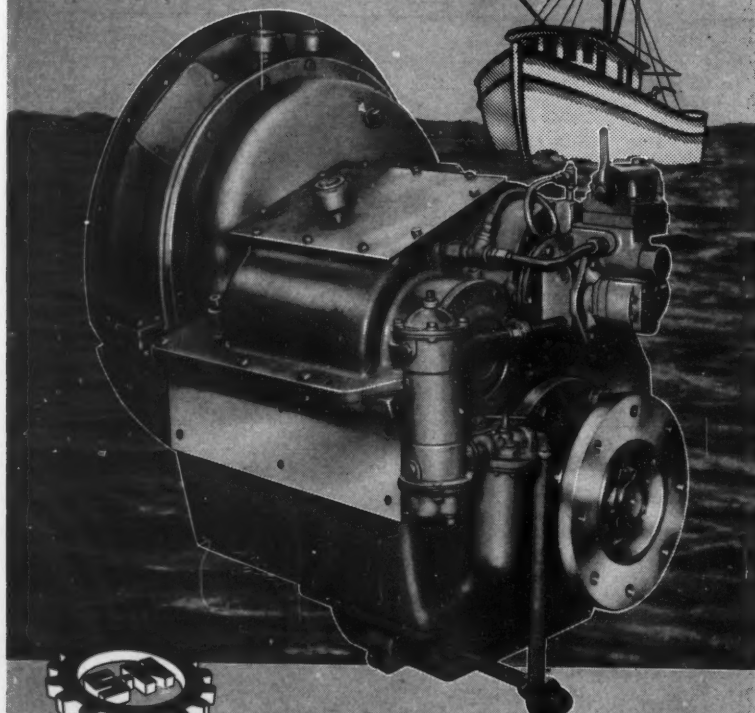
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Mississippi Sanitation Survey Underway

A sanitation survey of the shellfish control program on the Mississippi Gulf Coast began last month. It is being conducted by E. T. Jensen, chief, Shellfish Sanitation Section, U. S. Public Health Service, Washington, D. C. Findings up to late December were most satisfactory and Chief Jensen was well pleased with the shellfish control program in Mississippi.

Field visits were made to raw oyster plants in the area, bacteriological tests are made on water samples from various sections, shell stock samples are taken from state and other reefs and operations of packing, shucking and labeling at plants is studied.

Returns from Cruise

The exploratory vessel *Silver Bay* returned to Pascagoula on December 8 completing a three week shrimp trawling cruise along the east coast of Florida. The principal objectives of the trip were to test an experimental 96' balloon trawl using a rig with bracket doors and to obtain additional seasonal information on the production potential of the Royal Red Shrimp grounds between St. Augustine and Cape Canaveral.

Catches of shrimp varied greatly and no satisfactory gear comparisons could be made. Both 40 and 65-ft. flat trawls were used in exploratory dragging which revealed low concentrations over most of the area fished. The highest catch in 26 exploratory drags was 256 pounds of 20-25 count.

In the best fishing area one drag with the 96-ft. net yielded 355 pounds of shrimp and four drags with the 40-ft. net yielded 590 pounds of 15-25 count Royal Reds.

Gulf Shrimp Scarce

Shrimp canners on the Gulf last month reported the supply of shrimp very low, and canners expected this situation to continue until at least the middle of May when the spring run gets active. Panama is becoming a large exporter of frozen shrimp to the United States. It is expected that the 1957 shipments will exceed 1956 by 33 percent—and last year was 47 percent ahead of 1955.

Making Shrimp Trawl Films

Testing of equipment and details of procedure with reference to producing films of shrimp trawls were carried out recently by the Fish & Wildlife Service vessel *George M. Bowers*.

An area west of Eleuthera Island in the Bahamas was selected for this work because of the excellent water clarity and a uniform depth of 4½-5 fathoms extending over many miles.

North Carolina Opens Two Oyster Areas

Two oyster areas were opened on December 16 by the Department of Conservation and Development upon recommendation of Dr. Al Chestnut, director of the Institute of Fisheries Research. These areas are West Bay in Carteret County and Shell Bay in Hyde County.

Seed oysters were planted in these two areas in the past two years and Commissioner Gehrman Holland of the Commercial Fisheries Division cautions against the taking of oysters under the legal cull size in these areas or from any oyster bottom in North Carolina.

Menhaden Fleet Busy

The menhaden fleet had a good week beginning December 16, although fish caught at that time were small and it was believed the large menhaden had moved offshore or had gone south. As many as 37 fish-spotting planes were reported in the air at one time last month and everyone agreed the menhaden schools stood a slim chance of evading the pilots eye.

A heavily loaded boat got stuck in the channel to the Fish Meal Co. of Beaufort, and caused a tie-up of other boats trying to get to the factory.

Increase in October Catch

Landings of fish and shellfish by commercial fishermen at North Carolina ports during October totaled 12.7 million pounds. Compared with the same month last year, this was an increase of 3.8 million pounds. A gain in thread herring partially offset by a decline in menhaden and spot was largely responsible for the heavier October landings.

During the first ten months of 1957 receipts of fish and shellfish at North Carolina ports amounted to 122.6 million pounds—a decrease of 20.6 million pounds compared with the corresponding period of the previous year. A drop in the catch of menhaden was largely responsible for the decrease.

Big Channel Bass Running

Willie Newsome of Hatteras reported that big channel bass were running good last month and he predicted good catches as late as Christmas.

He reported weighing 33 bass and not one of them was less than 35 pounds.

Preston Quidley of Buxton landed one last month which weighed 56½ pounds—one of the largest during the month and Nevin Wescott of Hatteras reported catching one that weighed 52½ pounds.



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EQUIPMENT and SUPPLY NEWS

New Snow-Nabstedt Reduction Gear

Snow-Nabstedt Gear Corporation, Hamden, Conn., has announced its newest model in the S-N 3900 series of marine gears. The S-N 3941 hydraulically actuated reverse-reduction gear has been developed for marine engines which develop up to 660 ft. lbs. torque at 1800 rpm. continuous service. For lighter intermittent service, a higher rating is obtained with speeds up to 2400 rpm.

The gear is a light, short, and compact unit with finger-tip control, capable of transmitting the maximum horse power in either forward or reverse operation.

The S-N 3941 features a single oil system which pressure lubricates all gearing and bearings. The same oil actuates the forward and reverse clutches through a selector valve. High pressure oil lines are internal and drilled passages replace the usual exposed lines.

The gear has an arrangement designed to control the speed of clutch engagement and prevent dragging of the reverse clutch when the gear is operating in forward. Quick and easy servicing is assured since accessories such as oil pump, selector valve, regulating valve, oil filter and cooler are mounted on the outside of the housing for quick and easy servicing.

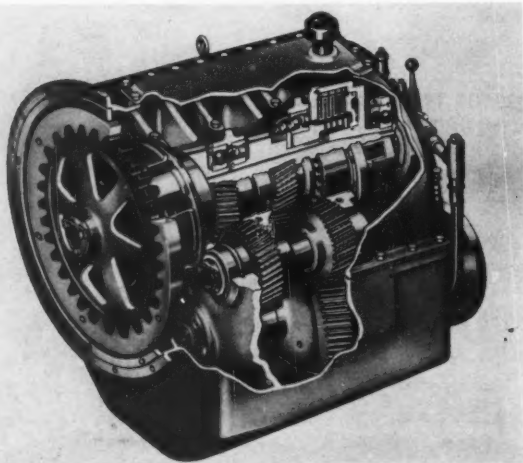
The unit is designed with five reduction ratios from 2.11:1 to 4.4:1 with approximate weights of 700 to 850 pounds depending on the ratio used.

Tubbs Folder On Synthetic Rope

Tubbs Cordage Company, 200 Bush Street, San Francisco, Cal. has designed a reference guide for synthetic rope. The new folder, "Modern Rope Magic", tells where and how to use synthetic rope, the characteristics of each kind, and the specifications. It also describes these uses and includes a table for selecting the correct rope for specific purposes. The table lists the size, tensile strength and net weight of the rope varieties listed. Copies of the folder may be obtained directly from Tubbs.

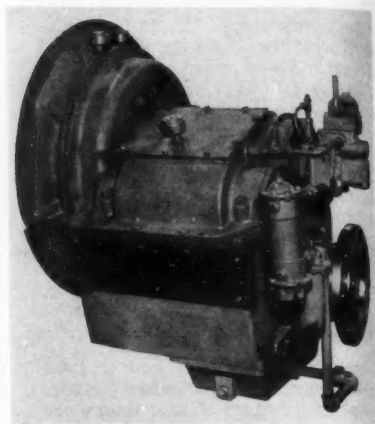
Chris-Craft Announces 1958 Models

The 1958 power plants from Chris-Craft Corp., Algonac, Mich., are engineered for use in commercial craft ranging from 60 to 200 hp. Most powerful is the 200 hp. model "WB" a rugged engine for commercial vessels. Top horsepower at only 3200 rpm. allows lower running tempera-



Twin Disc Model MG-521 reduction gear.

The new Snow-Nabstedt marine reduction gear Model S-N 3941.



tures for long continuous service at peak load and throttle. Reduction of 1.50:1, 2.54:1, and 2.03:1 are offered. Chris-O-Matic clutch controls afford finger-tip shifting.

The models "A" and "B", 60 hp. engines measure less than 32" overall and achieve top power at 3200 rpm. The B is offered with 2.04:1 and 3:1 reductions. The 131 hp. "KFL" engine, designed for quick acceleration, has an overall measurement of 40" and attains its horsepower at 3800 rpm.

The 130 hp. "M" series offers 1.5:1 and 2.03:1 reductions in addition to the direct drive model which weighs 970 pounds. The "MCL" attains 175 hp. at 3400 rpm. with a 7.22:1 compression ratio. Reductions of 1.5:1 and 2.03:1 are available.

Graham Joins Burmeister & Wain

Appointment of David C. Graham as sales manager of Burmeister & Wain American Corp., Mystic, Conn., has been announced by Paul A. Christensen, president.

Originally from Dayton, Ohio, Graham studied at Pennsylvania State College. He has had extensive experience in the marine power field. For the past ten years he was associated with Nordberg Manufacturing Co. as sales engineer.

Twin Disc Has New Marine Gear

Twin Disc Clutch Company, Racine, Wis. has announced a new high-capacity marine reverse and reduction gear. The Model MG-521 is rated for engines producing up to 450 continuous hp. at governed speeds ranging from 1625 to 1850 rpm.

The new gear features "finger-tip" control for forward, neutral, and reverse. The control is through a selector valve, which hydraulically actuates the oil-cooled, multi-plate forward and reverse clutches. A differential mechanism in the selector valve permits a steady rise of actuating oil pressure from 35 psi to the maximum of 150 psi in one second.

Another feature of the MG-521, the arrangement of five hardened and ground helical gears straddle-mounted on anti-friction bearings on short rigid shafts, is designed to assure extremely long life.

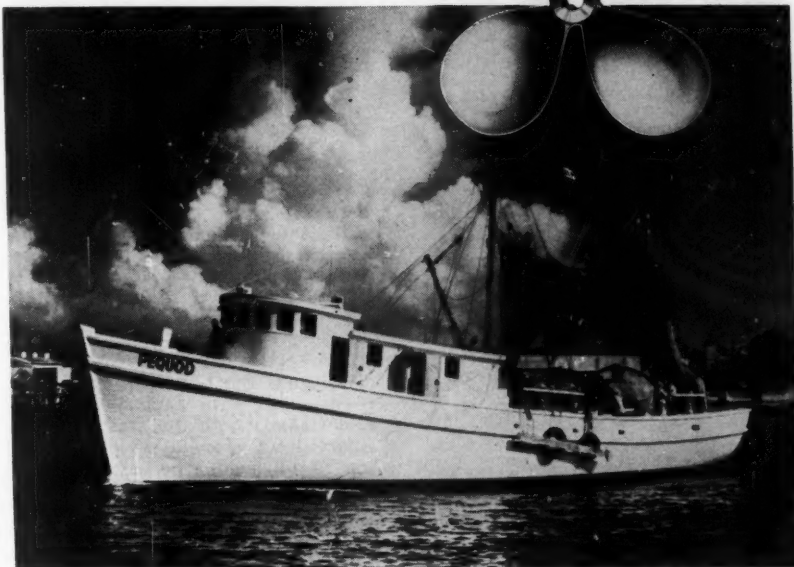
Engine power is transmitted to the MG-521 through Twin Disc's Rubber Block Drive. The drive permits the transmission of engine torque through rubber to cushion vibrations and shock loads. It will withstand a normal amount of misalignment without imposing undue loads and stresses.

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The housing is split in a manner that permits the removing the top half for disassembling the clutches and gear train without disconnecting the lower portion from the engine or disturbing the gear's alignment.

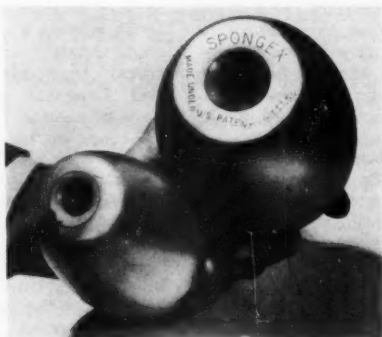
The new Twin Disc MG-521 Marine Reverse and Reduction Gear is offered with ratios of 2:1, 3:1 and 4:1, and as standard, is adaptable to engines having SAE No. 0 flywheel housings.

Two New Spongex Floats

B. F. Goodrich Sponge Products, Shelton, Conn., has added two new floats to its current "Spongex" assortment of 15 sizes and shapes. The larger oval float, 5" in length and 4 3/4" in diameter with 7/8" hole, yields a buoyancy of 15 ounces. The smaller oval float, with a 5 1/8" length, 3 1/2" diameter and 5/8" hole has a buoyancy of 37 ounces.

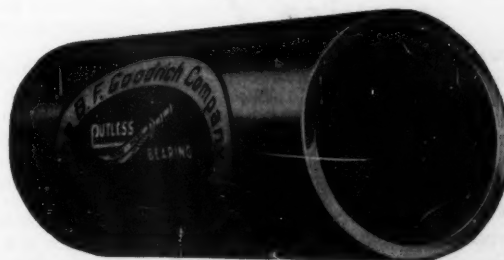
The new floats feature chamfered holes designed to spare both float and line the wear and tear common at that point. The smaller float originated in the Company's efforts to produce an efficient gill net float.

Goodrich Spongex
oval floats have
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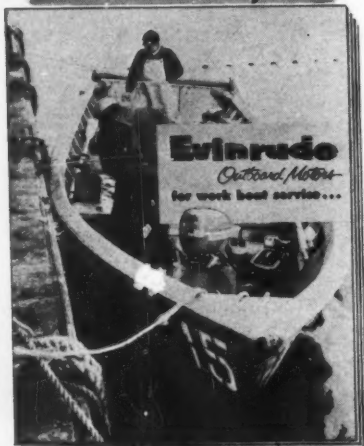
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Push For Negotiations With Japanese In Alaska-Spawned Salmon Dispute

Congressman Thor Tollefson of Washington, said he will ask Congress to direct the State Department to open negotiations with Japan, looking toward conservation of Alaska-spawned salmon. Although strict conservation regulations are in effect to regulate the catch of Alaska-spawned salmon by United States fishermen, they do not apply to Japanese fishermen outside the three-mile limit.

"So far as our laws are concerned," Tollefson said, "the Japanese—but not our fishermen—can take all the salmon they want in the high seas. This they are doing and, unless they can be induced to desist, they will destroy the Alaska salmon fishery which has contributed substantially to our economy."

Delegate Bartlett of Alaska, said negotiations with Japan should be undertaken "with the aim of either establishing a zone in which no fishing at all would be permitted or moving the imaginary line, eastward of which Japanese nationals are not permitted to fish, to a suitable point to the west."

The Japanese fishing fleet has complied with the letter of treaty obligations and refrained from crossing the 175th meridian, West longitude, provisionally established as the eastern boundary of Japan's fishing operations. This barrier does not protect the Alaska salmon runs from being depleted by Japan's far flung ocean fishing activities.

Indisputable evidence has been shown that Japanese fishermen have been catching large numbers of Alaska-spawned red salmon.

U. S. Bureau of Commercial Fisheries Director, Donald L. McKernan told the Association of Pacific Fisheries meeting at Seattle, "it is obvious from scientific evidence that a major part of this year's salmon run to Bristol Bay was intercepted by a foreign power on the high seas."

Would Move Attention Line

McKernan charged that the Bristol Bay catch was cut nearly in half by Japanese interception. Unrestrained fishing in the North Pacific could deprive American fishermen of the salmon resources built up through conservation. Continuing, he said, the market as well as the resources would be lost to American fishermen if foreign fishermen continue to harvest the American stocks and sell them to this country.

The recent session of the International North Pacific Fisheries Commission refused to consider an immediate change in regulations.

Both industry leaders and fishermen oppose waiting for the next scheduled meeting in Tokyo a year from now. They say irreparable damage would be suffered in the

meantime by the Bristol Bay red-salmon runs.

Chairman of the U. S. Section of the INPFC, Milton E. Brooding said that the Japanese have been asked by American Commission members to withdraw their fleets 15 degrees or 500 miles west of the present line of abstention. Such a withdrawal would move the eastern boundary for Japan's fleet to the 170th degree of East longitude.

Japan Wants More Investigation

Koh Chiba, head of the Japanese delegation said he does not believe Japanese fishermen are intercepting North American salmon in the Pacific. "If this intermingling of salmon has become a problem, it is certainly a new problem as far as I am concerned." Iwao Fujita, vice chairman of Japan's National Fisheries Association said scientific research shows that intermingling varies with species and time, and that investigations have to be carried further before Japan would compromise.

An attempt to solve the problem has been made by the Commission. It has created a three man committee to try and establish a fixed boundary line that the fishermen from both sides would not cross. George Johansen, secretary-treasurer of the Alaska Fishermen's Union, pointed out that "under the agreement, this committee will not be functioning for the next 12 months and consequently, no recommendations will be forthcoming for at least two years."

"Another year of fishing by the Japanese, such as we have seen this year, will completely destroy these valuable runs."

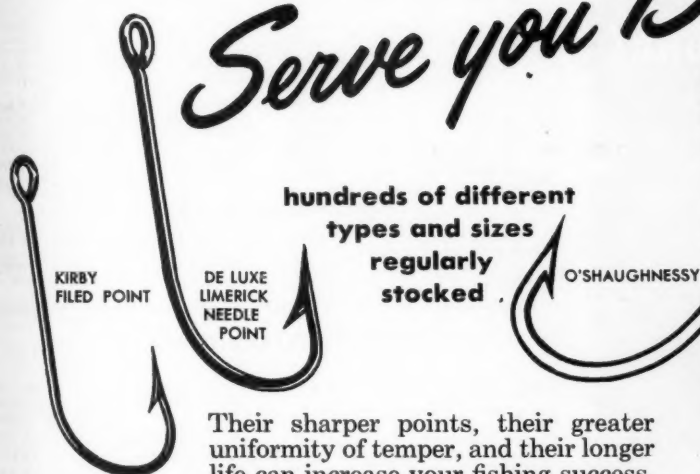
Managing director of the Alaska Salmon Industry, W. C. Arnold has urged the American industry to close the market to Japanese salmon. "The Japanese are largely dependent on the American market for the disposal, not only of their canned salmon, but also of their canned tuna and crab meat."

General opinion indicates that this country must not allow such a great resource to be despoiled or destroyed. Incurring economic reprisals such as high duties on imports of canned salmon, tuna, and crab meat or by closing the market completely, could readily force the Japanese to curtail their high seas fishing fleet and American salmon runs would have a chance to survive.

According to Arnold, "there is no reason why American fishermen and American salmon cannery should sit idly by and see the United States market invaded by Japanese canned salmon taken in violation of the purpose of the treaty and offered for sale in the United States at a cost lower than the cost of production by American producers."

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Their sharper points, their greater
uniformity of temper, and their longer
life can increase your fishing success.
Ask your supplier, or write.

THE ENTERPRISE MFG. CO., AKRON 9, OHIO

PFLUEGER

(Pronounced "FLEW-GER")

A GREAT NAME IN TACKLE



Large Dams Hinder Salmon

(Continued from page 11)

been used—barriers of cables, barriers of hanging chains which combine noise with light, or shadow, and a little sound; and electrical fields also have been tried.

All these things work out well in the laboratories and not too badly on small streams, but none of them works on any of the major salmon streams, mainly because of the tremendous flow of these great rivers and the amount of debris they carry along with them.

Loss of Salmon Is Cumulative

The B. C. Electric Co. has plans to build four dams of less than 100 feet height on the lower Fraser, and six on the Thompson. All these dams will be between the mouth of the Fraser and the Adams River, the little seven-mile river which is the richest producer of salmon in the system. If just ten per cent of the fish are lost at each dam, (the loss, it must be remembered, is a cumulative one), only 90 percent of the fish get up to the second dam, only 81 per cent get to the third dam, and so on, until in the end only about 35 per cent of the fish that "hit" the first dam will get past all the dams to the spawning grounds on the Adams River.

Then, with regard to fingerlings going down, if we take a very low figure and say that just 30 per cent are lost through the turbine or spillway on each dam, and we accumulate the losses over the other dams, we find that only four per cent of the fingerlings who started out will live to get over the last dam. That is 4 per cent of the 35 per cent which got up, which means that in just one run there would be a return of less than 1½ per cent of the normal return. That is why scientists say it would end the salmon fishery in the Fraser River in just one cycle.

Connecticut Fishermen Seek Better Landing Facilities

The Stonington dragger fleet is starting another year still without suitable facilities for landing its catches.

For the past two years efforts have been made to locate a processing plant in the Stonington area but as yet, those efforts have been non-productive.

Fishermen contend that because adequate landing facilities are not being provided, the area is losing considerable business from boats landing their hauls at other ports. That business could be brought back if good facilities were provided.

Although efforts have failed to result in any material benefits as yet, members of the Southern New England Fishermen's Assoc. will continue to press for action toward a plant in 1958, with the hope it will materialize during the year.

To Manage Association Again

Capt. Israel M. Jacobs, who resigned several months ago as business manager for the Southern New England Fishermen's Association has taken up those duties again. He reassumed the post last month. Capt. Jacobs is also one of the three Connecticut members of the Atlantic State Marine Fisheries Commission.

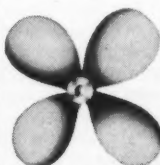
Dragger Renamed

The Stonington fishing dragger John McLoon has been renamed the *Myra and Gloria* and is now operating under that name. The dragger was purchased by members of the Roderick family early last year and has been operating as a regular member of the Stonington fleet since that time.

COLUMBIAN PROPELLERS SAVE TIME — MAKE MONEY



Columbian propellers give greater power, speed and maneuverability. They get you to your fishing or dragging grounds faster... give a head-start back to the market... help bring in a catch that is fresher by hours! Other money-saving features: big fuel economies — less layup time for propeller repairs! Columbian offers a complete choice of propeller alloys for every job and water condition, including revolutionary new **ELECTRALLOY "N"** for the world's toughest, strongest, most corrosion-resistant propellers of **UNMATCHED REPAIRABILITY**. For new equipment or refitting, it will pay you to ask for propellers and accessories from



COLUMBIAN BRONZE CORP.

Freeport, L. I., New York

BOAT CATCHES

For Month of December

Hailing fares. Figure after name indicates number of trips.

NEW YORK

Andrea G. (2)	53,500	Joseph S. Mattos (3)	103,500
Austin W. (2)	34,400	Lady of Good Voyage (1)	28,100
Clipper (3)	85,000	North Cape (1)	22,000
Edith L. Boudreau (1)	29,800	Star of the Sea (2)	58,600
Evelina M. Goulart (2)	69,900	Tina B. (2)	71,100
Golden Eagle (2)	78,300		

Scallop Landings (Lbs.)

Beatrice & Ida (1)	5,100	Felicia (1)	8,500
Carol-Jack (1)	9,900	Muskegon (1)	5,000
David A. (2)	18,200	Richard Lance (1)	3,200
Enterprise (2)	13,200		

STONINGTON (Conn.)

America (8)	17,800	Lisboa (8)	16,200
Averio (2)	2,200	Little Chief (4)	7,900
Bette Ann (6)	3,900	Luann (9)	52,800
Carl J. (6)	18,300	Marise (9)	12,000
Carol & Dennis (9)	25,900	New England (4)	10,900
Carolyn & Gary (8)	8,200	Old Mystic (8)	19,800
Connie M. (7)	5,700	Our Gang (4)	6,000
Fairweather (9)	33,200	Rita (8)	26,000
Five Sisters (9)	22,000	Theresa (7)	12,900
Irene & Walter (7)	17,200	Weezie May (1)	1,100
Jane Dore (8)	9,600	William B. (8)	25,600
Lt. Thos. Minor (9)	12,400		

GLOUCESTER (Mass.)

Acme (6)	19,000	Manuel P. Domingoes (1)	90,000
American Eagle (4)	28,500	Margaret Marie (5)	27,500
Ann & Marie (3)	3,500	Marianna II (3)	42,000
Anna Guarino (1)	1,000	Mary (1)	800
Annie (6)	7,500	Mary Ann (5)	65,000
Anthony & Josephine (6)	11,500	Morning Star (8)	33,800
Ave Maria (3)	6,000	Nancy & Maria (1)	5,000
Baby Rose (1)	27,000	Natale III (10)	53,600
Bonaventure (1)	20,000	Njorth (3)	2,500
Bonnie Bill (11)	30,900	No More (4)	3,400
Cape Cod (4)	14,600	Ocean Wave (1)	7,000
Carlannaul (11)	14,300	Olympia (4)	35,000
Catherine B. (4)	38,000	Our Lady of Fatima (1)	120,000
Cigar Joe (7)	50,000	Peggy Belle (4)	3,000
Curlew (2)	395,000	Pioneer (5)	6,000
Cushman (2)	430,000	Priscilla (1)	2,500
Dawn (4)	4,000	Prosperity (8)	16,500
Dolphin (1)	45,000	Regina Maria (1)	30,000
Doris F. Amero (1)	8,000	Rose & Lucy (4)	21,000
Eddie & Lulu M. (7)	10,800	Rosemarie (2)	20,000
Emilly H. Brown (2)	326,000	Rosie & Gracie (7)	24,000
Estrela (1)	114,000	Ruth & Helen (1)	9,000
Eva II (7)	11,500	St. Anna Maria (7)	31,700
Evelyn C. Brown (1)	240,000	St. Cabrini (7)	39,000
Falcon (11)	28,200	St. John (4)	8,400
Flow (1)	175,000	St. Joseph (2)	18,000
Frances R. (6)	28,700	St. Marco (1)	10,000
Frankie & Jeanne (4)	4,500	St. Mary (11)	63,800
Gaetano S. (4)	55,000	St. Nicholas (1)	149,000
Gertrude E. (4)	3,700	St. Peter (1)	10,000
Giacoma (10)	13,600	St. Peter II (1)	43,000
Golden Dawn (2)	21,000	St. Peter III (6)	43,000
Helen B. (8)	42,000	St. Providence (2)	1,900
Holy Name (6)	62,000	St. Rosalie (3)	30,000
Ida & Joseph (7)	84,000	St. Stephen (3)	5,000
Immaculate Conception (3)	8,000	St. Teresa (8)	58,000
Irma Virginia (10)	15,100	St. Victoria (1)	15,000
Jackson & Arthur (1)	1,500	Salvatore & Grace (5)	29,000
J.B.N. (2)	41,000	Santa Lucia (1)	700
Josie II (4)	15,000	Sebastiana C. (7)	54,500
Judith Lee Rose (2)	347,000	Serafina N. (6)	42,500
Kingfisher (2)	357,000	Serafina II (3)	11,700
Kurta (3)	2,100	Theresa M. Boudreau (1)	160,000
Lady of the Rosary (2)	22,000	Tipsy Parson (6)	9,300
Linda B. (3)	5,700	Victoria (4)	2,900
Little Flower (8)	28,900	Villanova (1)	120,000
Luckmees (1)	100,000	Vincie N. (2)	10,000
		Virginia Ann (6)	27,000
		White Owl (8)	9,600

Gloucester Scallop Landings (Lbs.)

Sylvester M. (1)	11,000
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NEW BEDFORD (Mass.)

Adventurer (2)	30,500	Lorine III (1)	29,000
Anastasia E. (3)	46,400	Luann (1)	15,000
Annie M. Jackson (3)	69,000	Lubenray (1)	28,500
Barbara M. (4)	74,000	Major J. Casey (4)	75,500
Cap'n Bill (2)	30,000	Malvina B. (2)	48,000
Cap'n Bill II (2)	30,000	Marie & Katherine (3)	68,300
Carl Henry (2)	51,500	Mary E. D'Eon (2)	54,500
Charles E. Beckman (3)	35,900	Mary Tapper (3)	75,500
Christina J. (2)	45,000	Midway (3)	44,500
Comber (3)	24,000	Miriam A. (3)	76,600
Connie F. (3)	55,000	Molly & Jane (4)	64,400
Curlew (2)	13,700	Natilus (1)	40,000
Debbie Jo-Ann (1)	28,000	North Sea (3)	73,500
Eugene & Rose (2)	49,000	Pauline H. (2)	80,000
Falcon (4)	86,600	Philip & Grace (1)	41,200
Famiglia (2)	49,800	Phyllis J. (2)	16,000
Friendship (2)	45,400	Rita (1)	16,000
Gannet (2)	54,000	Roberta Anne (2)	35,500
Growler (4)	68,700	Rosemarie V. (2)	50,200
Harmony (2)	61,500	R. W. Griffin, Jr. (2)	52,400
Hope II (2)	76,400	Solveig, J. (3)	83,500
Invader (3)	69,000	Stanley B. Butler (2)	46,500
Ivanhoe (3)	54,000	Stella Maria (2)	53,000
Jacintha (2)	63,500	Sunbeam (3)	102,700
Janet & Jean (2)	60,100	Susie O. Carver (3)	42,700
Joan & Tom (3)	38,700	Teresa & Jean (2)	65,500
Katie D. (2)	77,900	Venture I (3)	80,500
Keibarsam (3)	35,300	Victor Johnson (2)	43,100
		Viking (1)	29,000
		Whaler (2)	62,000

Scallop Landings (Lbs.)

Abram H. (2)	17,800	Laura A. (2)	22,000
Adele K. (2)	18,000	Linus S. Eldridge (2)	20,000
Aloha (2)	19,500	Louis A. Thebaud (2)	12,000
Alpar (2)	10,500	Louise (2)	21,600
Amelia (1)	8,700	Malene & Marie (2)	14,000
Babe Sears (1)	9,500	Marmax (1)	7,500
Baltic (2)	21,000	Mary Anne (2)	19,000
B. Estelle Burke (1)	10,000	Mary J. Hayes (2)	19,000
Bobby & Harvey (1)	2,000	Mary J. Landry (2)	18,000
Brant (2)	20,500	Moonlight (2)	20,000
Bright Star (2)	16,500	Nancy Jane (1)	10,000
Brother Joe (2)	8,000	Neille Pet (1)	9,000
Camden (2)	19,000	New Bedford (2)	22,000
Carol & Estelle (1)	11,000	Newfoundland (2)	14,500
Catherine & Mary (2)	20,000	Noreen (2)	22,000
Charles S. Ashley (2)	16,200	Pearl Harbor (2)	18,300
Clipper (2)	19,000	Pelican (1)	11,000
Dartmouth (1)	11,000	Porpoise (1)	9,500
Edgartown (2)	21,200	Rosalie F. (1)	6,000
Eleanor & Elsie (2)	18,000	Ruth Lea (2)	22,000
Elizabeth N. (2)	15,000	Ruth Moses (1)	11,000
Empress (1)	7,000	Sharon Louise (1)	10,500
Eugene H. (1)	11,000	Sippican (2)	22,000
Fairhaven (2)	19,500	Smilyn (2)	19,500
Fleming (1)	11,000	Snoopy (2)	16,000
Fleetwing (2)	17,500	Stanley M. Fisher (2)	18,000
Florence B. (2)	13,500	Ursula M. Norton (2)	16,000
Jerry & Jimmy (3)	25,000	Vivian Fay (1)	9,500
John G. Murley (2)	16,800	Wamsutta (2)	16,500
Josephine & Mary (2)	14,500	Whaler (1)	7,000
Kingfisher (1)	8,000		

ROCKLAND (Me.)

Araho (1)	9,300	Ocean (1)	250,000
Elin B. (1)	3,000	Squall (1)	165,000
Flo (4)	35,500	Storm (2)	400,000
Helen Mae II (1)	10,000	Surf (1)	250,000
John J. Nagle (2)	24,000	Tide (2)	305,000
Little Growler (2)	13,500	Wave (2)	395,000
Mable Susan (2)	10,800		

Scallop Landings (Lbs.)

Pocahontas (2)	19,500	Rhode Island (2)	12,500
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WOODS HOLE (Mass.)

Arnold (4)	21,800	Margie L. (2)	18,000
Famiglia (1)	1,700	Metacomet (3)	17,900
Gertrude D. (3)	23,600	Papoose (1)	12,300
Libby (1)	9,900	Roann (1)	30,000
Lynn (4)	33,900	Southern Cross (2)	11,900
Madeline (3)	7,500	Three Bells (2)	10,200
		Victor Johnson (1)	4,300

Scallop Landings (Lbs.)

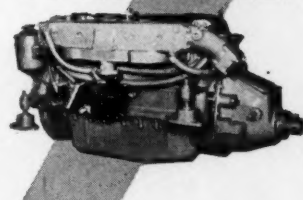
Empress (1)	4,500
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YOUR WIDEST POWER CHOICE FROM THE LEADING MARINE ENGINE BUILDER

Gray's new 85 hp Four-85 is one of nine 4-cylinder engines covering a wide range of requirements, and listed at 25, 31, 45, 60, 63, 70, 75, 85 and 90 hp.

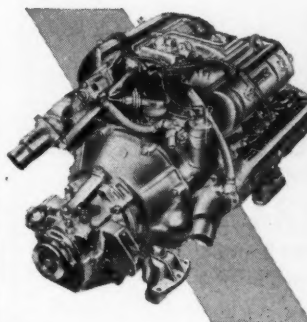
Gray's 109 hp Model 109 (shown) is popular with stockboat builders, and one of ten fast, smooth 6-cylinder engines rated at 109, 116, 118, 120, 136, 150, 165, 175, 185 and 200 hp.

19 FOURS AND SIXES

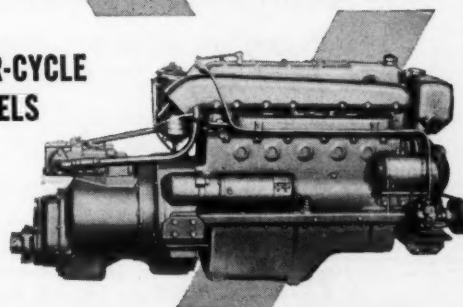


2 FIREBALL V-8's

Gray's smooth new V-8's—160 hp and 225 hp—have already distinguished themselves in many varied installations for those who want top power in a lightweight, compact yet sturdy package. Many features, including new Warner hydraulic gear, smooth idling, quick acceleration, top-of-engine servicing.



6 FOUR-CYCLE DIESELS



Gray's 130 hp Six-D427 shown, use-proved for years in Government service, is representative of the Gray Diesel line—25, 30, 60, 130, 150 hp, and now the new 190 hp Six-D802. For those who want the benefits of Diesel power, Gray's four-cycle design is an extra advantage, resulting in simpler maintenance and smoother, quieter operation.



GRAYMARINE

GRAY MARINE MOTOR COMPANY
DETROIT 7, MICHIGAN, U.S.A.

SUBSIDIARY OF CONTINENTAL MOTORS CORPORATION



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(Made from 100% DuPont Nylon)

Clean, sharp and uniformly knotted to perfection, Starr Nylon Netting has the look of quality . . .

Rugged, yet lightweight, Starr Nylon Netting has the feel of dependability.

Expertly made by experienced hands, Starr Nylon Netting has the bonus feature of long run economy and maximum performance.

Starr Nylon Netting looks, feels and is quality . . . Let's you fish easier and longer! That's why it catches and keeps.

STARR NETTING . . .
STAR PERFORMANCE



A. M. STARR NET CO.
EAST HAMPTON, CONNECTICUT

BOSTON (Mass.)

Agatha & Patricia (1)	50,700	M. C. Ballard (2)	61,700
Arlington (3)	246,500	Michael G. (2)	15,400
Atlantic (3)	156,300	Michigan (3)	185,400
		Minnie (1)	5,000
Baby Rose (1)	71,000	Mother Frances (2)	54,000
Bonaventure (1)	39,900		
Bonnie (2)	166,700	New Star (3)	183,500
Bonnie Billow (2)	97,700	Notre Dame (2)	28,900
Bonnie Breaker (2)	93,700		
Brighton (2)	118,800	Ocean Wave (1)	19,100
Buzz & Billy (3)	68,100	Olympia (3)	68,500
		Olympia LaRosa (2)	58,100
Cambridge (2)	178,900		
Caracara (2)	46,300	Pam Ann (2)	73,100
Carmela Maria (1)	6,900	Patty Jean (3)	323,400
Carmen & Vince (4)	134,400	Phantom (2)	137,900
Charlotte M. (3)	151,300	Pilgrim (2)	103,400
Columbia (3)	126,200	Plymouth (3)	171,700
Comet (3)	204,300	Puritan (3)	85,000
Dolphin (1)	32,400	Racer (2)	167,500
Doris F. Amero (2)	45,400	Raymonde (3)	133,100
		Red Jacket (3)	302,400
Eagle (3)	116,200	Regina Maria (1)	44,200
Elizabeth B. (2)	76,800	Rosa B. (2)	120,700
Estrela (1)	33,000	Rosie (2)	13,500
Etheleena (3)	71,700	Rosie V (1)	3,400
		Rush (1)	51,300
Flying Cloud (2)	168,300		
Four (2)	82,600	St. Angelo (1)	30,200
		St. Anthony (3)	116,900
Geraldine & Phyllis (2)	79,500	St. Joseph (3)	49,200
		St. Marco (3)	81,800
Hazel B. (2)	90,800	St. Victoria (2)	69,400
Holy Family (3)	141,600	Santa Maria (4)	100,600
		Sunlight (4)	151,300
Ida & Joseph (1)	27,800	Swallow (3)	157,300
Jane B. (3)	184,200	Terra Nova (2)	94,000
J. B. Junior (2)	132,100	Texas (2)	120,200
Jeanne D'Arc (2)	48,800	Thomas D. (2)	33,500
Joseph & Lucia (2)	112,800	Thomas Whalen (3)	127,200
Josephine P. II (2)	34,100		
Lady of the Rosary (3)	125,100	Villanova (2)	58,400
Leonard & Nancy (2)	42,700	Vincie N. (2)	36,200
Manuel F. Roderick (3)	114,000	Weymouth (2)	104,000
Maria Del S. (1)	1,800	Wild Duck (3)	124,200
Mary & Joan (3)	138,000	William J. O'Brien (1)	131,000
Mary Ann (1)	33,300	Winchester (2)	250,200
Mary Rose (2)	88,200	Wisconsin (2)	244,700

PORTLAND (Me.)

Agnes & Elizabeth (3)	32,000	Nancy B. (4)	63,000
Alice M. Doughty (1)	29,000	Ocean Life (1)	36,000
Alice M. Doughty II (3)	28,500	Quincy (1)	27,000
Andarte (1)	11,000	St. George (2)	251,000
Dorchester (2)	30,400	Theresa R. (2)	45,000
Dorothy & Ethel II (2)	12,500	Vagabond (2)	20,500
Elmor & Jean (2)	11,500	Vandal (2)	37,000
Gulf Stream (2)	48,000	Wawenock (2)	325,000
Medan (2)	510,000	Winthrop (1)	2,000

Cuba Agrees To Follow Florida Policy on Tortugas Shrimp Bed

From Miami, Florida, State Senator William R. Neblett of Key West stated that a "gentlemen's agreement" has been reached between the U. S. and Cuba to recognize the off limits prohibitions of shrimp fishing in the Dry Tortugas beds.

Neblett stated the agreement is a forerunner of a formal treaty which the U. S. Senate will be called on to ratify next year.

Cuban boats fishing the Tortugas shrimp beds will obey the Florida rule of taking no shrimp smaller than the 50 to a pound limit while the Cuban-American treaty is being drafted.

The Florida conservation Department has the authority to close down parts of the Tortugas shrimp beds when tests show that the average catch is running below 50 to the pound. So far, the average shrimp are running fairly large and none of the Tortugas area has yet been closed. Marking buoys have been placed to show areas which usually yield small shrimp.

Dr. Nestor Carbonell, sub-secretary of state in Cuba, was the chairman of the conference in Havana. William C. Herrington, fisheries and wildlife assistant to the U. S. Secretary of State, headed the American delegation. The group agreed to set up a six-man commission with three Cuban and three American members to look over the problem and make suggestions to be agreed on jointly by both nations.

Texas Has Record Shrimp Landings in 1957 Season

Record shrimp landings during 1957 have given Texas shrimp producers an optimistic picture of what could be expected for 1958 if the number of new shrimp trawlers coming into Texas waters is an index.

Walter Droemer of Gulf Seafoods of Palacios has received his new trawler *Vixen*. R. E. Clegg Shrimp Co. of Palacios, have just received the fifth addition to the company's fleet, *Margaret Ruth* from the Brander shipyards of Biloxi, Miss. The trawler *Three Grand Kids* has been delivered to the Patterson Shrimp Co. of Brownsville. The *Country Cousin* recently delivered to the Twin City Fisherman's Co-op at Port Isabel is the company's 52nd trawler.

Weather conditions were a primary factor in seafood production for the 30-day period ending December 20. Despite a severe and fast moving norther which hit the west Gulf of Mexico for a week the last of November and three other spells later in December, an exceptionally large fleet of modern shrimpers along the Texas coast landed 3.7 million pounds of heads-off shrimp at principal ports. This more than doubled the production for the same period a year ago.

The total heads-off shrimp production for the first 11 months of 1957 stands at 47.5 million pounds, a new record and 31 percent above that for the same period in 1956. Edible finfish production showed a decline during the last 30-day period, caused by the bad weather.

Oyster production was hindered by a new state law closing reefs along the northeast Texas coast until November 1, 1958, and placing additional restrictions on number, type and capacity of boats and dredges working the reefs. The law was necessary to protect reefs in that area and prevent complete depletion of others. Reports show 2,025 barrels produced to December 1, 1957.

Starts Fishery Education Program

John Santos Carinhas, Jr. of Brownsville has started a program of instruction for young men interested in fishing. He was assisted in drafting the course of study by Sam Snodgrass, Earl Webster and O. A. Kirkconnell, with the advice and suggestions from boat operators and crew members in the Brownsville area.

The course, sponsored jointly by the State Vocational Division and the Texas Shrimp Association, has six sections: — Introduction; — Navigation; — Radio, Depth Recorder; — Mechanics; — Biology and Sanitation; and — Fishing Gear.

Cedar Bayou Being Surveyed

A preliminary survey was in progress last month of Cedar Bayou on the Gulf coast in an attempt to perfect plans for opening the pass. This pass separates Mustang and St. Joseph Islands. It would serve the San Antonio Bay and the Copano Bay area in the vicinity of the Goose Island State Park.

Coastal fishermen are interested in the development of these passes to permit free circulation of water from the Gulf into the bay areas. This would reduce the salinity of the bay waters in dry seasons and also permit a faster removal of fresh water when floods occur in the interiors.

Bay Fishing Closed to Trawlers

The Game and Fish Commission recently announced that all bays, straits, channels and salt water lakes would be closed to commercial shrimpers using a large trawl beginning December 15 and ending March 1, 1958. Bait boats using a trawl with a mouth opening not more than 10 feet wide will be permitted to operate in closed waters. Operators are reminded that the matter of size of net doors permitted is not uniform and cautions the bait shrimper to contact his local warden for detailed information pertaining to the body of water to be fished.

NORTH HILL

DIGS FAST . HOLDS FAST . BREAKS OUT EASY



NETS • RAKES • TONGS

Bait Netting - Wire Baskets
Rope - Lobster Pot Heading Twine - Corks

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Walter V-Drives



SIZES FOR ALL ENGINES
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Saves valuable cabin space

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FORTEX

Reinforced Molded Rubber Fabric

BUCKETS & PAILS

Practically Indestructible!

Fortex buckets and pails are not plastic or galvanized metal. They are different — give really long life aboard ship!

Pliable — can't dent, break, leak, rust, crack!

Won't scratch wood decks, paint, metal. Won't slip or slide. Lightweight!

Resists sea water, soap, acid, grease, alkali corrosion. Mold-proof!

Special spark-proof, rust-resistant handle.

Contains DuPont Neoprene for greater oil resistance.

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Great Lakes Production Nearing Winter Level

Commercial Fishing on the Great Lakes began tapering toward Winter production level, with stormy weather over the region last month hampering operations. Lake Michigan had the best commercial production with good catches of lake chubs and yields of yellow perch exceptionally good in November. Production of lake herring in some instances has been impressive.

Fishing fleets in Minnesota waters of Lake Superior were getting better commercial catches of lake trout and whitefish than in previous years. Herring have been taken in good quantity by fishermen in Wisconsin waters.

Overall production has dropped some due to the winter weather and that many of the fishing craft are beginning to tie up for the winter months.

New Lamprey-Killing Devices

Direct current diversion devices will be placed on 13 streams emptying into Lakes Superior and Michigan next spring in an attempt to end killing of game fish in sea lamprey control structures.

The devices were designed by Alberton L. McLain, Marquette, Mich., fishery research biologist for the Marquette office of the Fish & Wildlife Service. They are different from the alternating current barriers installed in the mouths of streams flowing into the two lakes.

The AC units have proved effective in stopping the lamprey's spawning migration, but in some streams excessive mortality has resulted in other fish. The DC device will be used to control the upstream movement of fish. Game fish will be diverted away from the barriers used to trap the lampreys and toward the river bank, where a trap to collect the fish will be located.

Wisconsin rivers and streams on which the devices will be installed are the Bad and Brule rivers and Fish Creek on Lake Superior, and the Pere Marquette and Pensaukee rivers on Lake Michigan. Upper Michigan streams are the Two Hearted, Chocolay, Big Huron, Silver, Beaver Lake Outlet, Sucker, Misery and Firesteel rivers, all on Lake Superior.

Yellow Perch Lead Ohio Landings

Yellow perch, carp, blue pike and yellow pickerel accounted for 88 percent of the Ohio September 1957 landings. Fishermen of District 1 led all others in the state with 626,000 pounds. Total landings of commercially caught fish during September dropped below the same month last year to 1.2 million pounds.

Leading species during the March-September 1957 period were yellow perch, yellow pickerel, sheepshead, blue pike and carp. Fish at Ohio ports during the seven month period totaled 20 million pounds compared with 20.7 in the same period of 1956. A decline in the catch of yellow pickerel, blue pike, and white bass, partially offset by a gain in the catch of yellow perch and sheepshead, was responsible for the decreased landings.

"Cisco" on Final Cruise

The motor vessel Cisco, operated by the Fish & Wildlife Service, operated in the eastern basin of Lake Erie last month on the final cruise of the season. The cruise was marked by continued stormy weather which hampered operations.

Bottom trawling in two areas off Erie, Pa. and one area near Long Point, Ontario, resulted in catches of only smelt in any numbers. Practically all the smelt were yearlings; and they were taken at the rate of about 1,000 per fifteen minute tow.

Smelt older than yearlings in these areas were not as abundant as they had been during the summer. Other species caught in the bottom trawls included alewife,

whitefish, white sucker, spot-tail, emerald shiner, burbot, trout perch, white bass, yellow perch, johnny darter, sand darter, sheepshead, slimy muddler and spoonhead muddler.

Experimental nylon gill nets were set on the bottom in 33 fathoms off Long Point, and others were set obliquely from top to bottom in 27 fathoms. The bottom net caught 62 smelt, 2 yellow perch and 20 lake herring. The 20 lake herring represented the largest catch of this species taken this year by the Cisco. The oblique net contained 108 yearling smelt, scattered at all depths but most abundant near the bottom. Three yellow perch, 3 sheepshead, 2 alewives and one lake herring were caught at midlevels.

November Chicago Receipts

The November fresh and frozen fishery products receipts at Chicago totaled 7.1 million pounds. Leading were whitefish with 400.4 thousand pounds, a gain of 90.2 thousand pounds over the same month of 1956. Following were sheepshead and lake herring with gains of 46.7 and 42.8 thousand pounds for the period. Receipts were lower for most major fresh water species.

Breaded shrimp lead the salt-water fish receipts as they equalled the October volume and were nearly twice the November 1956 arrivals. An increase in oysters and spiny lobster tails offset a decline in raw headless shrimp. Groundfish fillets held their own compared with October. Salt-water receipts were generally lower because of less frozen halibut, fish sticks, sablefish and whiting.

Rhode Island Plans Major Fish Industry Expansion

Governor Roberts last month announced tentative plans for a major expansion of the commercial fishing industry at Point Judith, involving state and private expenditures amounting to an estimated \$640,000. The Point Judith Dehydrating Process Co. plans to build a \$200,000 addition, and the Point Judith Fishermen's Cooperative Assoc. a \$40,000 storage plant.

The balance of the expenditure or \$400,000 is included in the construction of nine new finger piers to accommodate about 50 boats and a 250-foot wide breachway across Great Island Road, connecting the main breachway with the eastern section of Point Judith Road.

The expansion of the fish plant will increase production capacity between 25 and 40 percent and will raise plant installations to a total value of a million dollars. The construction of a storage plant by the Cooperative will eliminate complications that developed last summer when fleet catches exceeded the 24-hour 300-ton processing capacity of the plant.

The co-op and the plant will set new records this year, with fishermen being paid about \$1,000,000 for trash fish by the end of this year.

The fleet consists of 36 boats with 6 or 7 others using the co-op facilities, and with a list of about 25 boat owners who are waiting to be admitted to membership when accommodations are available.

Landings Increase 25 Percent

Landings of commercially-caught fish and shellfish at Rhode Island ports during September amounted 17.1 million pounds valued at \$436,000. Compared with the same month last year, landings were up 25 percent in volume and 7 percent in value. Butterfish, menhaden, haddock, bay scallops and lobsters showed increases while black-back flounders, scup or porgy, hard clams and squid were down.

Total landings of all fish and shellfish for the first nine months of 1957 amounted to 115.7 million pounds valued at \$3.6 million. Compared with the same period, last year, this was an increase of 12.2 million pounds in volume and \$93,000 in value.

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Raytheon Manufacturing Co., 138 River St., Waltham 54, Mass.

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Wilfrid O. White & Sons, Inc., 178 Atlantic Ave., Boston 10, Mass.

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Caterpillar Tractor Co., Peoria, Ill.

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Daimler-Benz of North America, Inc., 126-56 Northern Blvd., Flushing, L.I., N. Y.

Detroit Diesel Engine Div., General Motors Corp., Series 51, 71 and 110 Marine Diesels, 13400 W. Outer Drive, Detroit 28, Mich.

Enterprise Engine & Machinery Co., 18th and Florida Sts., San Francisco 10, Calif.

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FOREIGN BAILINGS

OYSTERS STRUNG ON WIRES are boosting trade for Denmark's oyster fishermen. Oysters live off plankton, most of which floats near the surface of the water. In experiments conducted a few years ago it was discovered that oysters lying on the sea bed cannot get at the food.

With that in mind a Danish firm removed its shellfish from their beds and strung two million of them on wires hung between posts. They found with this method that the oysters reach edible maturity in one third of the normal time. When strung in this manner they are also easier to collect.

THE BRITISH ANNUAL REPORT on its fisheries for 1957 referred to the Government's intention to appoint a "Committee of Inquiry into the fishing industry." Now, the British Government has made announcement of the appointment of the committee and has made public terms of reference. "To assess, in relation to developments in fishing and marketing of fish, the size, and pattern, and implications of an economic fishing industry in the United Kingdom, and to report."

The British Minister of Agriculture and Fisheries, in answer to a question regarding the study, said in parliament "The main object of this inquiry is to find people who are independent of the industry itself and so will be able to consider objectively the evidence that will be given them from all sections and branches of this industry."

A DIESEL ENGINE SCHOOL at the Fisheries Experiment Station, Pusan, sponsored by the Korean Office of Marine Affairs, is training 19 students in the actual installation, operation, maintenance, and repair of Diesel engines.

At least two classes are planned to train Korean instructors who will then teach courses for fishermen in the fishing ports throughout Korea, according to a report from the Office of Technical Cooperation in Seoul.

THE ALASKAN CATCH FOR 1956 amounted to 425 million pounds valued at \$40 million to the fishermen.

The production represented an increase of 110 million pounds or 35 percent in volume and \$14 million or 53 percent in value compared with 1955.

The 1956 salmon catch increased about 33 percent. The total increase was due to heavier runs of red and chum salmon. Landings of pink salmon were also above those of last year. The herring reduction fishery was more productive in 1956 than in any year since 1950.

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BOAT & GEAR MART

Classified Advertising Rates: \$1.00 per line, \$5.00 minimum charge. Count 9 words to a line. Closing date, 25th. National Fisherman, Goffstown, N. H.

SCALLOP DRAGGER FOR SALE

Built, September 1952, at So. Bristol, Maine. 78' x 18' x 9'8", 4 x 4 double oak frames, oak planking. 280 hp. medium duty Atlas Diesel engine, 750 rpm., pilothouse controls, 2 to 1 reduction gear. 5 kw. tailshaft generator, 115 volt D. C. bank of batteries. Lister auxiliary, 5 kw. generator, air compressor, water pump. 50-watt telephone, 2 Lorans, Bludworth D. F., Hathaway Winch #50, 2 years old. Will ice 80,000 lbs of fish. Boat fishing out of New Bedford at present. Ray Larkey, 12 Greco Terrace, No. Arlington, N. J. Phone Kearny 3-7486.

FOR SALE

Cruisers, draggers, auxiliaries—all types and sizes. If you are in the market for anything in that line, please write us—no inquiry too small to merit attention. KNOX MARINE EXCHANGE, INC., CAMDEN, MAINE.

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SHRIMP BOAT FOR SALE

Shrimp boat 50 ft., GM Diesel. Boat, motor, rigging, first class condition. New fuel tanks, 40 watt radio. Now fishing. Asking \$10,000, no reasonable offer refused. A. D. Smirch, P. O. Box 95, Mayport, Florida. Cherry 9-9604.

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Fishing types, such as purse seiners, draggers, and trollers; commercial types, such as tugs, barges, tankers, freight, passenger and miscellaneous. Donald L. Woodward, Licensed Broker, Box 45-A, Moss Landing, Calif.

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Propeller type, for circulation or exhaust. 24 volts DC, with magnetic starter, each **\$24.95**
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THE BOSTON METALS COMPANY
313 Baltimore St., Baltimore 2, Md.
CURTIS 7-5050

FISHING CRAFT

Fishing craft, Eastern or Western type dragger 36' to 100' or more. Several forty footers in good shape, Diesel powered, ranging in price from \$5000 to \$7500. Write or phone for detailed information and photos. "The right boat to suit your requirements." Wanted—a listing of your spare marine equipment available for sale. A ready market for good gear. Edwin B. Athearn, Falmouth, Mass. Tel. Kimball 8-1447.

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Rebuilt marine engines with new cylinder blocks: Chris Craft "130" \$675; Chrysler Crown "115" \$650; Royal "8" \$675. 30 kw. Diesel generator set 115 volt D. C. \$600 with heat exchanger. Marine Diesels and parts, starters, generators, pumps. Helwege Marine Engine Co., 741 S. Ocean Ave., Freeport, N. Y.

SHRIMP TRAWLER FOR SALE

Shrimp trawler *Rise and Shine*. Fully equipped, A-1 condition, 68'. Brine system 20,000 lbs. Telephone, direction finder, recorder, pilot, Stroudsberg, double rig. All rigging and tanks galvanized. Information, Phone 446-M, E. H. Easley, Box 444, Aransas Pass, Texas.

FOR SALE

Oyster dredge boat *Catherine M. Wedmore*, length 56'3" by 18'2", draft 6'. Diesel powered, Hitchcock Hoisters. Boat and machinery in excellent condition. Charles K. Wedmore Sons, 34 South Water St., New Haven 11, Conn.

DRAGGER "ALFILD" FOR SALE

Dragger *Alfild*, \$12,000, 43 ft. long, 13'5" wide, G. M. Diesel, 3 to 1 reduction gear, draws 5½ ft. Built 1947 by Olson. All equipped. Write or phone Daniel Rossetti, 3414 Landis Ave., Sea Isle City, N. J. Tel. 3-7471.

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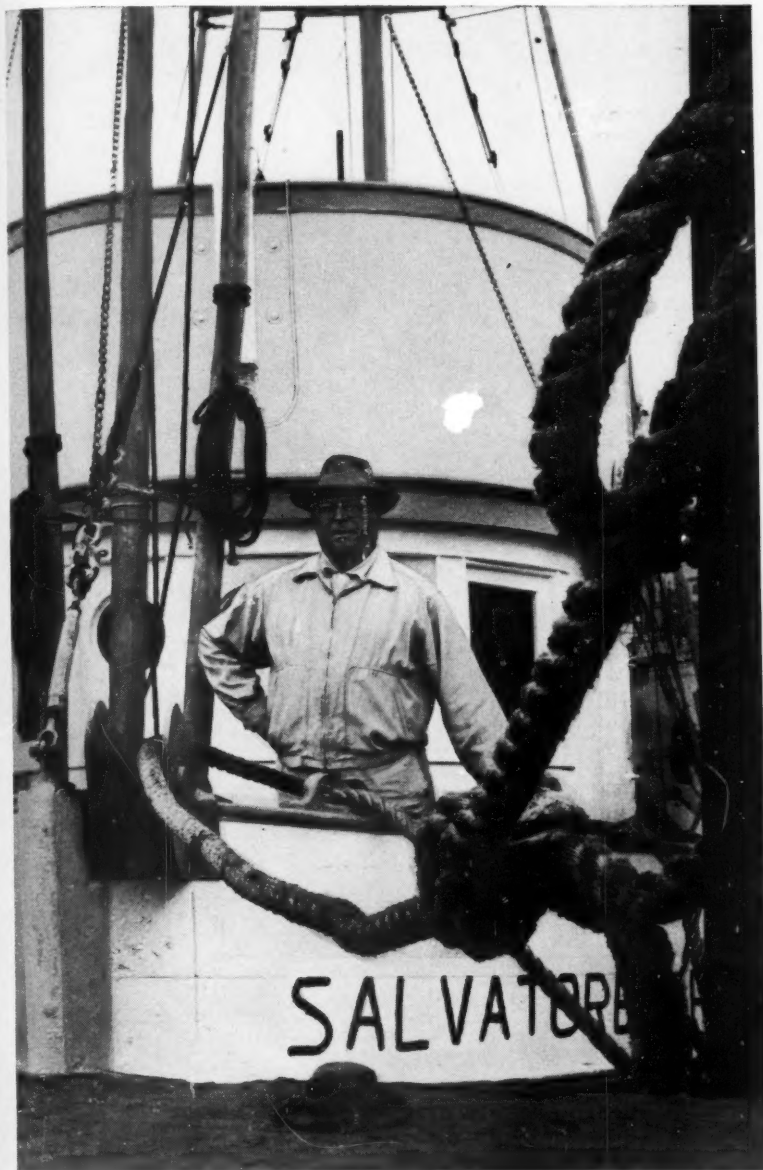
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ENGINEER'S FIELD REPORT

PRODUCT RPM DELO OIL
FIRM M/V SALVATORE PADRE
San Francisco, Calif.

Original bearings still good after 15 years!



Mr. Salvatore Piazza, above, owner-skipper of M/V Salvatore Padre, has operated his 60-foot fishing boat for 15 years—using RPM DELO Oil exclusively. Vessel's 110-horsepower Atlas diesel still has original rod and main bearings. Engine of this vessel has been torn down twice for inspection—only parts replaced were a set of piston rings, installed in 1947. Mr. Piazza says, "This engine is still very clean and smooth running. RPM DELO Oil has kept it that way for 15 years. I wouldn't use any other."

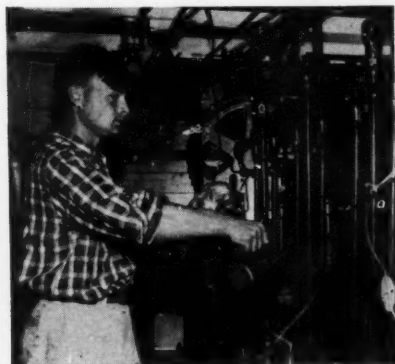


TRADEMARK "RPM" AND DESIGN
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STANDARD OIL COMPANY OF CALIFORNIA, San Francisco 20
THE CALIFORNIA OIL COMPANY, Perth Amboy, New Jersey



M/V Salvatore Padre, operating out of San Francisco, goes as far south as Mexico fishing for salmon, albacore, sardines, crab.



Engine Room is supervised by Mr. Piazza's son. Latest engine inspection showed no carbon, sludge, or deposits of any kind.

Why RPM DELO Oils reduce wear, prolong engine life



Metal-adhesion qualities keep oil on engine parts, running or idle. Anti-oxidant resists formation of lacquer. Detergent keeps parts clean. Special compounds prevent corrosion of any bearing metal. Inhibitor resists foaming.

For More Information or the name of your nearest distributor, write or call any of the companies listed below.

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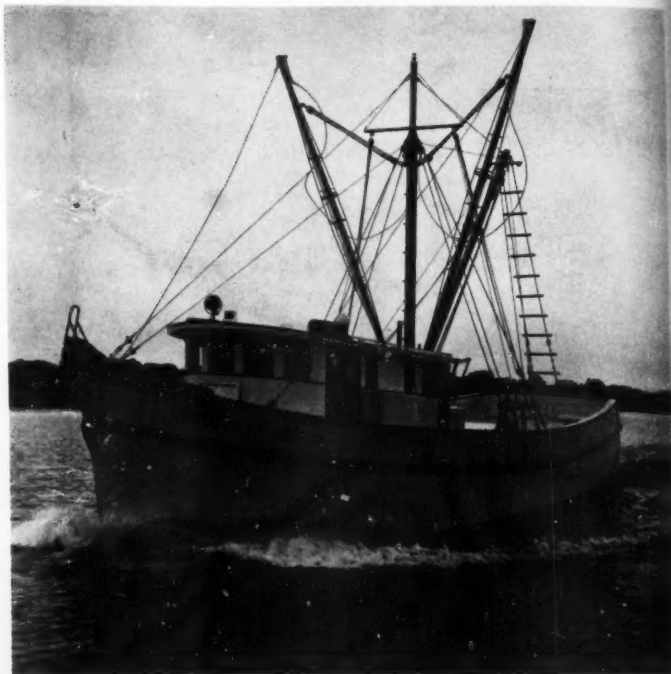
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